

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF VIRGINIA
ALEXANDRIA DIVISION

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UNITED STATES, et al., : Civil Action No.:
: 1:23-cv-108
Plaintiffs, :
versus : Monday, September 9, 2024
: Alexandria, Virginia
GOOGLE LLC, : Day 1 a.m.
: Pages 1-164
Defendant. :
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The above-entitled bench trial was heard before the
Honorable Leonie M. Brinkema, United States District Judge.
This proceeding commenced at 8:58 a.m.

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P R O C E E D I N G S

THE DEPUTY CLERK: Civil Action Number
1:23-cv-108, United States of America, et al. versus Google
LLC. This case comes on for a bench trial.

Will counsel please note their appearance for the
record, first for the plaintiff.

MR. MENE: Good morning, Your Honor. Gerard Mene
with the U.S. Attorney's Office.

THE COURT: Good morning.

MS. WOOD: Good morning, Your Honor. Julia Tarver
Wood from the Department of Justice for the United States.
With me are my colleagues, Aaron Teitelbaum.

MR. TEITELBAUM: Good morning, Your Honor.

MS. WOOD: Jeff Vernon.

MR. VERNON: Good morning.

MS. WOOD: Dan Guarnera and Michael Wolin.

MR. WOLIN: Good morning.

THE COURT: Good morning.

MS. DUNN: I'm sorry. Go ahead.

THE COURT: We keep forgetting the attorney
general.

MR. HENRY: Good morning, Your Honor. Ty Henry
from the Virginia Attorney General's Office on behalf of the
Commonwealth of Virginia and the plaintiff states.

Your Honor, with me this morning I have my

1 colleague Jonathan Harrison from the Virginia Attorney
2 General's Office; Elliott Dionisio from the California
3 Attorney General's Office; Morgan Feder from the New York
4 Attorney General's Office; and Brooke Lovrovich from the
5 Washington State Attorney General's Office.

6 THE COURT: Good morning.

7 MR. HENRY: Thank you.

8 MS. DUNN: Good morning, Your Honor. Karen Dunn
9 on behalf of Google. And with me at counsel table are
10 Jeannie Rhee, Bill Isaacson, Eric Mahr, Tina Sessions and
11 Matt Spalding, who's our tech. And I would just like to
12 note, there are representatives of the company in the
13 gallery.

14 THE COURT: That's fine.

15 Does either side want a rule on witnesses? You
16 forgot to ask that ahead of time.

17 MS. WOOD: Yes, Your Honor, we would like to
18 invoke the rule with respect to witnesses.

19 THE COURT: All right. Are there any witnesses
20 other than a party representative who are in the courtroom
21 right now?

22 MS. WOOD: And, Your Honor, just to be clear, with
23 an exception for experts. I believe experts are permitted
24 to stay, but the fact witnesses we would invoke the rule.

25 THE COURT: Does Google agree with that, Ms. Dunn?

1 MS. DUNN: Yes, Your Honor.

2 THE COURT: All right. Then any witness who has
3 not yet testified has to be outside of the courtroom not
4 hearing any of the testimony. Once a witness has testified,
5 unless you all ask to re-call that witness, he or she will
6 then be allowed, if they can get space, to sit in the
7 courtroom and watch the proceedings, but they'll be told not
8 to discuss their testimony or anything they have seen or
9 heard in the courtroom with any witness who has not yet
10 testified. All right.

11 Are there any other preliminary matters before we
12 get started?

13 MS. WOOD: Not for the government, Your Honor.

14 THE COURT: All right. Ms. Rhee.

15 MS. RHEE: Your Honor, one housekeeping matter is
16 based on last week's hearing, the parties -- or at least
17 Google -- thought that there was an agreement with respect
18 to how to proceed on depo designations.

19 Over the weekend, the government took the position
20 that with respect to whatever streamlined depo designations
21 they wanted to play in court and/or read out in court
22 pursuant to the Court's ruling last week, Google did not
23 have the opportunity to raise their objections that they had
24 already lodged, even though we are attempting to streamline
25 because the government has taken the position that there's

1 been waiver with respect to any outstanding objections with
2 respect to depositions.

3 THE COURT: All right. Well, let me ask you this,
4 is this issue going to come up today? I mean, we're going
5 to get the opening statements. Are they all live witnesses
6 today?

7 MS. WOOD: Yes, Your Honor.

8 THE COURT: Let's discuss that at some other time.

9 MS. RHEE: Wonderful, Your Honor.

10 THE COURT: I have it in my head, and perhaps
11 overnight you all will resolve the issue. We'll raise it
12 again when it's appropriate.

13 Will it come up tomorrow, do you think?

14 MS. WOOD: No, Your Honor.

15 THE COURT: Good. Then you've got some time.

16 MS. RHEE: We would love to resolve this issue.

17 THE COURT: Both of you have done a great job in
18 doing that, so I suspect I won't have to spend much time on
19 it, if any.

20 MS. RHEE: Thank you.

21 THE COURT: Ms. Wood, are you opening for the
22 United States?

23 MS. WOOD: Yes, Your Honor.

24 THE COURT: Again, this is a 30-minute opening
25 statement. We will give you a three-minute and a one-minute

1 warning.

2 OPENING STATEMENT ON BEHALF OF THE PLAINTIFFS

3 MS. WOOD: Good morning, Your Honor.

4 THE COURT: Good morning.

5 MS. WOOD: In the next 30 minutes as I deliver the
6 opening remarks on behalf of the United States,
7 approximately 270 million open-web display ads will be shown
8 to Internet users around the world every day. That amounts
9 to 13 billion open-web display ads. To put that number in
10 perspective, that is 342 times the number of stocks traded
11 on the New York Stock Exchange on a given day, and open-web
12 display ads don't take off for weekends and holidays.

13 This trial is about the ad tech tools that process
14 those display ads in fractions of a second while a web page
15 loads on the Internet, but it does not take a computer
16 science degree, Your Honor, to understand what happened
17 here. This industry may be modern, but the defendant's
18 anticompetitive schemes are as old as monopolies themselves,
19 and, like all monopoly cases, this one comes down to one
20 word, control.

21 Control is the defining characteristic of a
22 monopolist. Monopolists use their market power to exert
23 control over the businesses around them, customers and
24 competitors. And when one company controls an entire
25 marketplace, no one wins except the monopolist. Prices go

1 up; innovation goes down, and the industry, as a whole,
2 suffers. That is why, over a century ago, the United States
3 Congress passed the Sherman Act, to prevent monopolists from
4 taking unfettered control over Private Marketplaces, because
5 in America, we believe markets function best when there's
6 freedom of choice for all market participants. So that is
7 why we are here today on behalf of the American people and
8 the Attorney's General of 17 sovereign states to remove the
9 hold that the defendant has over the ad tech industry.

10 Your Honor, the defendant in this case needs no
11 real introduction. This is a company so ubiquitous that its
12 name is not just a proper noun, but an everyday verb. How
13 often do we hear "go Google that."

14 But as the Court knows, this case is not about
15 Google's dominance in the search market; a different court
16 across the river has already adjudicated that. This case is
17 about how Google used its monopoly and online search
18 advertising to make a new set of monopolies over ad
19 technology tools that are necessary to keep the free open
20 Internet alive.

21 That is why the plaintiffs have joined together to
22 bring Google to justice by enforcing this nation's antitrust
23 laws. We're not here to seek monetary damages because, as
24 Your Honor knows, Google's already paid those damages to
25 avoid trial by a jury. But we are here to seek justice, to

1 enjoin the illegal behavior and restore competition to these
2 vital markets.

3 So what is the ad tech industry that stands at the
4 heart of this case, and why does it matter? The ad tech
5 industry is the group of companies running behind the scenes
6 complex computer algorithms that enable website publishers
7 to earn ad revenue. Anyone who's used the Internet has seen
8 ads that appear on websites like this. They can be text or
9 photos or even a short video clip, but they're all displayed
10 on a website; that's why they're called display ads. And I
11 think both sides can agree, today's Internet would not exist
12 without display ad revenue.

13 Just like newspapers have always been funded by
14 ads, today's media providers require display ads to fund
15 their businesses and their content. Without that revenue,
16 websites would be blocked by paywalls or simply go out of
17 business.

18 Each year, open-web display ads generate roughly
19 \$24 billion in revenue for websites like this one, yet,
20 Google would have this Court believe that this market is a
21 fiction made up for litigation. The evidence in this trial
22 will show just the opposite. This is a real market,
23 affecting real people, businesses large and small, all
24 across the country and the world.

25 So let me show you now a demonstrative we'll be

1 using throughout the trial, Your Honor. These are the ad
2 tech tools that allow these display ads to appear in the
3 blink of an eye while a web page loads. And we'll be
4 spending lots of time with this demonstrative, but let me
5 just start briefly. On the left-hand side, you'll see the
6 publishers, they're the Internet content creators. They use
7 a tool called a publisher ad server to generate their ad
8 revenue. In the middle you see an ad exchange that matches
9 publishers with advertisers who want to buy those ads. On
10 the right-hand side, you see the tools that advertisers use
11 to place bids on those ads, and then you see the advertisers
12 themselves. The three bold boxes that are outlined in red,
13 those represent the monopolies that the government has
14 alleged in this case.

15 And it's worth saying the quiet part out loud,
16 Your Honor. One monopoly is bad enough; but a trifecta of
17 monopolies is what we have here.

18 The Court will hear how Google not only dominates
19 the tools used by publisher ad servers to sell ad space, but
20 also the tools used by advertisers to buy those ads and the
21 exchange that sits in between.

22 As one of Google's own employees questioned in an
23 internal email, a written communication Google actually
24 preserved: "Is there a deeper issue with us owning the
25 platform, the exchange, and a huge network? The analogy

1 would be if Goldman or Citibank owned the New York Stock
2 Exchange."

3 Now, Google may suggest that its monopolies in
4 these markets are merely the product of their success, but
5 as the Court will hear, Google did not innovate its way into
6 these monopolies; Google took the monopoly profits it earned
7 from its search business to buy its way into these markets.

8 This document, PTX1814 from January 2009, was
9 written shortly after Google bought DoubleClick. And
10 Google's intent is crystal clear from this document: "These
11 two exchanges will end up controlling or managing probably
12 90 percent of display inventory on the web." Display
13 inventory on the web is what this case is about.

14 Google wrote in the document: "Will have created
15 what's comparable to the New York Stock Exchange or the
16 London Stock Exchange." In other words: "We'll do to
17 display what Google did to search." And the evidence will
18 show that is exactly what Google did.

19 Now, let me take a moment to briefly introduce
20 some of the individuals who live and breathe these markets
21 every day who the Court will hear from during the course of
22 this trial. Your Honor will hear from website publishers
23 who depend on the open web to fund their business. Each of
24 these individuals worked for website publishers who are
25 struggling in this economic environment to avoid layoffs.

1 You will hear how they feel locked into Google's ad tech
2 products, but no matter how frustrated they are, they simply
3 can't walk away. That's how much control Google has over
4 these markets.

5 Your Honor will hear from these individuals, both
6 of whom work for rival publisher ad servers that are
7 striving to carve out a niche for themselves in the face of
8 Google's overwhelming dominance in the market for publisher
9 ad servers.

10 And Your Honor will hear from each of these
11 gentlemen who represent ad exchanges. They will testify
12 about what it's like to compete against Google when Google
13 is, by virtue of its dominance, able to stack all the cards
14 against them. You will hear them explain how they only see
15 the crumbs of display inventory that Google leaves behind.

16 And the Court will hear from Brian Boland who used
17 to run Facebook's advertiser ad network. You will hear how
18 Facebook, even Facebook with all its resources, could not
19 compete against Google in these markets.

20 And the Court will hear from Jed Dederick of The
21 Trade Desk which runs a rival demand-side platform. You
22 will hear how, even in an adjacent product market, he has
23 difficultly competing on a fair playing field.

24 And, finally, the Court will hear from Google's
25 advertiser customers. They will describe the importance of

1 open-web display advertising to their ad campaigns and why
2 they can't simply switch away to alternative products.

3 All of these witnesses, Your Honor, will describe
4 the commercial realities of this market, and plaintiffs
5 believe that after you've heard this powerful testimony,
6 there will be no doubt that this is a real market, with real
7 impact, and that Google exerts control over it.

8 Let me briefly recount the four legal claims that
9 plaintiffs have brought. The first claim is that Google
10 monopolized the market for publisher ad servers. The second
11 claim is that Google monopolized, or in an alternative,
12 attempted to monopolize the ad exchange market. Claim three
13 is that Google monopolized the advertiser ad network market.
14 And fourth, plaintiffs allege Google engaged in illegal
15 tying by tying its publisher ad server product to its ad
16 exchange product.

17 To prevail on the monopoly claims, plaintiffs will
18 show two things. First, that Google has market power in the
19 relevant markets, as alleged; and, second, that Google
20 willfully acquired or maintained that monopoly power by
21 engaging in anticompetitive conduct.

22 To prevail on the tying claims, plaintiffs will
23 establish that Google's market power, not necessarily even
24 monopoly power in one market, allowed it to coerce customers
25 to purchase a product in a separate category.

1 With that, Your Honor, let me go over some basic
2 terminology we'll be using throughout the case. The Court
3 was aware we did file a glossary for the public and for the
4 Court last night with agreement by counsel.

5 So one of the things we'll be talking about is
6 publishers. As we've already discussed, that is the creator
7 of the website. And the ad space they sell is often
8 referred to as ad inventory. But what's unique about
9 display ads is that each ad is sold to an individual -- on
10 behalf of an individual user at a particular time on a
11 particular website, and that's why it's called an ad
12 impression. So unlike print ads or billboards where we all
13 see the same ad at the same time, I might log onto
14 weather.com right now and see one ad, and the person sitting
15 next to me might see an entirely different ad. That is the
16 nature of digital advertising.

17 Now, let's turn to our -- hopefully what will
18 become a familiar schematic. On the left-hand side, you
19 will hear about the publishers that use publisher ad
20 servers, and you will hear how publishers are totally
21 dependent on these publisher ad servers, and that it takes
22 "an act of God" to switch publisher ad servers. That's how
23 embedded they are and essential they are to publishers'
24 ability to generate ad revenue.

25 The evidence will show that Google has between

1 87 percent and 91 percent market share in the market for
2 publisher ad servers depending on the geographic parameters
3 chosen. And so what happens when that user comes to a
4 website and the ad impression starts to -- the information
5 about the potential ad impression is released, the publisher
6 sends information about that ad impression to its publisher
7 ad server, and then the ad server forwards that information
8 in the form of a bid request to the ad exchange, which is
9 the second tool in the market seen here in yellow.

10 The ad exchange, as we indicated, is like a stock
11 exchange in the sense that it matches buyers and sellers of
12 a product together. And, once again, Google completely
13 dominates the ad exchange market. The evidence will show
14 that Google has approximately 56 to 47 percent market share
15 in this market, depending on the geographic parameters. And
16 just to underscore visually the relative size of Google to
17 the overall ad exchange market, you can see here that
18 Google's worldwide market share is roughly nine times the
19 size of the next closest competitor, so it's no wonder that
20 Google's own employees referred to Google's ad exchange as
21 an "authoritarian intermediary."

22 The next step of the process is the ad exchange
23 forwards information about that bid request or ad impression
24 to the advertiser buying tools. As Your Honor can see here,
25 there are two fundamental types of ad buying tools, the one

1 on the top is called an advertiser ad network. It tends to
2 be used by less sophisticated, more hands-off advertisers
3 who just want to set their campaign objectives and let the
4 computers do all the work.

5 Google's advertiser ad network, like many of its
6 products have gone by multiple names over the years, but for
7 consistency sake during the trial, we'll be referring to the
8 advertiser ad network as Google Ads. And the evidence will
9 show that Google Ads has a market share of approximately 87
10 to 88 percent.

11 The second type of ad-buying tool below that is
12 called a demand-side platform, or sometimes abbreviated DSP.
13 And a DSP is typically used by larger, more sophisticated
14 buyers who want greater control and visibility into their
15 ad-buying systems. And even here, while there's no monopoly
16 claim for the demand-side platform that Google runs, it is
17 the largest or one of the two largest ad tech provider in
18 that market as well.

19 So these ad-buying tools then solicit information
20 from their advertisers about the bids they're willing to
21 submit, and those bids flow back into the ad exchange, which
22 then flows back into the publisher ad server, and then
23 ultimately the winning bid has their creative advertising
24 content loaded onto the publisher's web page. And,
25 remember, all of this happens in the blink of an eye while

1 we wait for a website page to load.

2 At each stage of the process, each of these ad
3 tech companies take a fee called a take rate or rev share.
4 These fees are taken out of what advertisers pay before the
5 money reaches its way to the publisher. And the evidence
6 will show that for every dollar that flows through Google's
7 ad tech products, Google extracts for itself a whopping
8 37 percent of every dollar.

9 Let me turn now to Google's anticompetitive
10 conduct. Google's conduct comes straight out of the classic
11 monopolist's playbook. Even though these markets are new,
12 these tactics have been deployed by monopolists for over a
13 century. There are three fundamental rules in a
14 monopolist's playbook. First, control the competition. If
15 you can't compete, just buy your competitors and then shut
16 them down. Problem solved.

17 Second, control your customers. Keep competition
18 out by locking your customer base in. No competition on the
19 merits necessary.

20 Third, control the rules and you control the
21 outcome. This is the classic heads, I win; tails, you lose
22 paradigm. The rules are set so that all roads lead back to
23 Google.

24 Let me start with the first category, Google's
25 penchant for buying out the competition. Google may try to

1 persuade the Court that its power over these markets is
2 simply because it is a successful innovator, but the truth
3 is that Google did not invent fire in these markets; Google
4 acquired its way to success.

5 Google's advertiser ad network was borne of the
6 monopoly it possessed in the online search business, and
7 those advertisers were drawn in because they needed to
8 advertise on Google's cert page, and by adding one click,
9 Google signed them up to purchase ads on third-parties'
10 websites as well using Google's ad tech tools.

11 But the problem was, Google never had a successful
12 publisher ad server or an ad exchange, so the evidence will
13 show that in 2008, Google went out and paid a premium to
14 purchase a company called DoubleClick. DoubleClick owned
15 the largest publisher ad server and had a nascent ad
16 exchange. That acquisition, Your Honor, set the competitive
17 conditions for all the anticompetitive conduct that
18 followed.

19 Then, a few years later in 2011, Google's "largest
20 concern" was worry about a "key competitor" called AdMeld.
21 AdMeld, Google acknowledged, had superior functionality that
22 threatened to, in Google's words, disintermediate Google's
23 lock on the ad tech industry.

24 So what did Google do? Google bought AdMeld,
25 incorporated the best of its technology, and shut the rest

1 down so it wouldn't be available for others. Again, with
2 the power of the purse, competition problem was solved.

3 The Court will hear that this is a familiar
4 pattern with Google. It's like the children's game
5 Whac-A-Mole. When competition threatens Google in one
6 product area, Google uses its power in a different part of
7 the ad tech stack to whack it away.

8 Now let's talk about Scheme Number 2 out of the
9 monopolist's playbook: Control your customers. Google
10 tries to frame this behavior as a legitimate refusal to deal
11 with rivals, but as the Court hears the evidence in this
12 case, Google's customers will testify how they don't feel
13 free to transact with Google's rivals, but, instead, are
14 captive to Google's products. So what Google may
15 characterize as a refusal to deal is actually a refusal to
16 allow its own customers freedom of choice in picking a
17 vendor.

18 Example 1 of this control your customer is the
19 Google's ad network tie to Google's ad exchange ad network.
20 Evidence will show that Google knew that its Google Ads
21 customers' advertisers should, in their best interests,
22 freely bid on multiple ad exchanges, but Google refused to
23 allow its advertiser customers to freely bid on these rival
24 ad exchanges, instead, insisting on making them do what was
25 in Google's best interest, which was to primarily deal only

1 on Google's AdX ad exchange. And Google's intent was clear,
2 as Scott Spencer wrote in this internal Google email: "Our
3 goal should be all or nothing. Use AdX as your SSP" --
4 that's another acronym for ad exchange -- "or don't get
5 access to our demand." Again, referring to Google Ads.

6 Example 2 is the tie between Google's ad exchange
7 and Google's publisher ad server, DFP. Google exploited the
8 fact that it had captive advertiser customers in Google Ads
9 that were tied to AdX to ensure that publishers had to use
10 DFP to access that unique pool of advertisers.

11 The Court will hear how that tie makes it
12 virtually impossible for publishers to abandon DFP, no
13 matter how dissatisfied they might be with that product.
14 That is not competition on the merits, Your Honor. That's
15 not a refusal to deal. That is classic tying, and the
16 Sherman Act makes that illegal.

17 So, finally, let's discuss the third scheme from
18 the Google monopolist's playbook: Control the rules and
19 control the outcome. One way Google controlled the rules in
20 this market was to give itself a first look in the auction
21 for ad impressions.

22 Now, there was a time period when auctions were
23 run in what is referred to as a waterfall succession. So
24 the ad exchanges were ranked in order of their historic
25 competitive bid, and they were called in succession in that

1 order.

2 So the first ad exchange would be given an
3 opportunity to meet the publisher's minimum floor price, and
4 if they could meet it, the impression was theirs without the
5 ad being offered up for auction to the people further down
6 in the waterfall process.

7 What Google did with its own AdX was to allow AdX
8 to effectively cut the line. It moved AdX to first in the
9 line so that Google, and Google alone, would have the
10 opportunity to see the ad impression, know what the minimum
11 amount it had to pay to win it, and grab that impression for
12 itself without other exchanges being given the opportunity
13 even to bid.

14 This system worked well for Google, Your Honor,
15 because it ensured Google's always got the best inventory.
16 But everyone else suffered. Publishers earned less money
17 because, as you can see there, there could be advertisers
18 further on in the waterfall who would be willing to pay that
19 publisher a higher amount for that ad revenue. Advertisers
20 suffered because advertisers who valued the impression
21 greater lost the chance even to bid on it. And rival ad
22 exchanges suffered because they were left out of the game
23 entirely because of Google's privileged position first in
24 line.

25 Ultimately, the industry revolted against the

1 fundamental unfairness of this waterfall setup, and they
2 developed a hack that you'll hear about over the course of
3 this trial called header bidding, which was a technical
4 workaround where literally Google's publisher customers
5 resorted to running an auction outside of Google's ecosystem
6 so they could get fair auctions.

7 Again, though, Google still playing that game
8 Whac-A-Mole, found a way to exert its dominance even in the
9 face of header bidding, because even once the header bidding
10 auction was won, that winning auction price was sent to the
11 publisher ad server, and even still, Google's ad exchange
12 got a chance to meet or beat that auction price.

13 The analogy is this, Your Honor: Imagine going to
14 a silent auction where all the participants bid
15 simultaneously and in secret, but one player, and one player
16 alone, is allowed to open the envelope, look at everybody's
17 bids, and then decide it wants to pay a penny more for that
18 valued commodity. Would anyone characterize that as a fair
19 auction? So why did everyone participate in this? Again,
20 because Google has control over these product markets.

21 Finally, you will hear about a rule that Google
22 instituted in 2019 that took away a core exercise of any
23 publisher, which is the right to set the price for their own
24 ad impressions.

25 Prior to Google's imposition of so-called Unified

1 Pricing Rules, or what we may refer to over the trial as
2 UPR, publishers could set minimum price floors for their own
3 ad inventory. And you know what else? Publishers could
4 decide that they wanted to give a better price to one of
5 Google's rival ad exchanges. Here, you can see that the
6 publisher might want to give a fuller price, a minimum price
7 to beat of 96 to OpenX. But you know what, Google didn't
8 want publishers to be able to give rival ad exchanges better
9 prices, so instead of competing on the merits to earn that
10 ad exchange business fair and square, Google imposed on all
11 of its publisher ad server customers Unified Pricing Rules
12 that required publishers to give AdX the benefit of that
13 publisher's best floor price.

14 And the Court will hear how Google imposed this
15 rule by fiat. No consideration was given in exchange for
16 UPR; Google just imposed the rule. And you will hear that
17 publishers were understandably furious with this new rule.
18 But what could they do? The evidence will show they could
19 do nothing because this market is controlled by Google, and
20 they had no viable alternative.

21 In closing, let me end where I began. Plaintiffs
22 are here to restore competition and freedom of choice to
23 these markets. No matter what you may hear from the
24 defendant over the course of this trial, plaintiffs are not
25 here to punish this defendant for success. No law in this

1 country, including the Sherman Act, prohibits a company from
2 achieving success, as long as they follow the law. So
3 despite what you may hear from defense counsel, Google is
4 not here because they're big; they're here because they used
5 that size to crush competition. And Google is not here
6 because they're innovative; they're here because they
7 acquired innovators and shut them down from working with
8 anyone else. And Google isn't here because it's the best;
9 it's here because it refuses to allow its customers the
10 freedom of choice to work with Google's rivals.

11 We hope that at the end of these proceedings, the
12 Court will hold the defendant accountable for the control it
13 has exercised for nearly a decade over these markets.

14 On behalf of plaintiffs, I thank you for your
15 attention.

16 THE COURT: All right. Thank you. Ms. Dunn.

17 OPENING STATEMENT ON BEHALF OF THE DEFENDANT

18 MS. DUNN: Good morning, Your Honor.

19 THE COURT: Good morning.

20 MS. DUNN: And may it please the Court.

21 This is a case about a transformative innovation
22 that has helped many businesses and millions of people,
23 especially small businesses.

24 It used to be that the way to monetize content
25 through digital advertising was to be a traditional

1 publisher for the big sales team like The Washington Post or
2 the New York Times, and that all changed in 2009 with an
3 innovation called real-time bidding that was introduced by
4 Google and a handful of other companies.

5 Real-time bidding was in 2009 what AI is today; it
6 was a game changer. It made possible an instantaneous
7 auction where advertisers could bid on ad space being sold
8 by content creators. And over the past 16 years, Google and
9 others have invested billions of dollars into the ad tech
10 that makes these auctions and other innovations possible,
11 and Google has invested to make these innovations work
12 seamlessly and securely because that is what funds the
13 world's information. And Google has created an
14 infrastructure uniquely suited to serve the consumers, its
15 customers, and its ad tech customers.

16 That has been good for Google; it's been good for
17 content creators, especially the small business content
18 creators who want to monetize their content; it's good for
19 advertisers who want to reach consumers that actually click
20 on the ads; and it's good for all of us who want access at
21 any time, anywhere to seemingly infinite digital content for
22 free. And while Google started out as one of only a handful
23 of companies in this industry, today the reality is there
24 are many, and we've put just a few examples on this slide.
25 There are names here that everyone recognizes like Microsoft

1 and Amazon and Meta and Disney. And there are names that
2 are less recognizable but are still multibillion dollar
3 companies like Criteo and The Trade Desk.

4 And Google is never going to tell this Court that
5 it is not a big company and that these investments and
6 innovations have not been in its financial interest -- and
7 they have been -- but we are going to show the Court that,
8 today, we are one big company among many others intensely
9 competing on a millisecond-by-millisecond basis for every
10 single ad impression.

11 Now, the result of Google and its competitors
12 pumping billions of dollars each year into this
13 path-breaking technology has been an astonishing 18-fold
14 economic growth in display ad spending across the entire
15 market.

16 This is data from an independent source called
17 EMARKETER, and it shows that the growth in display ad
18 spending went from \$8 billion in 2008 to nearly \$140 billion
19 in 2022, growth that is a product of the escalating use
20 market-wide of ad tech. And how much of this revenue went
21 to Google? Well, in 2010, it was about 15 percent; and in
22 2022, it was less than that, 10 percent.

23 So this is the kind of market-wide output as a
24 result of innovation that the antitrust laws are designed to
25 protect. It is a true sign, this kind of economic growth,

1 of a healthy market and one that is not in need of
2 government interference.

3 And not only is there no need, interference, at
4 this moment, could be especially damaging. This industry is
5 rapidly changing right now. There will be no witness in
6 this case who can say with clarity where this industry is
7 going in the next five years or the next ten or the next
8 twenty. Not even in the next year. And plaintiffs are here
9 asking the Court for a finding of antitrust liability and an
10 injunction, rulings that would control an uncertain and
11 undefined future.

12 And so the evidence in this case is going to show
13 that Google's efforts over years to serve advertisers and
14 publishers actually supercharged innovation, expanded choice
15 for customers, and grew the pie for everyone.

16 And this morning in our time together, I would
17 like to spend a little bit of time talking about three
18 independent reasons that the plaintiffs' claims will fail.

19 First, at the threshold, is that plaintiffs will
20 not be able to prove their alleged relevant markets.

21 Now, as the Court knows, relevant markets are
22 dictated under the law by commercial realities. And one of
23 the first questions that the Court will need to consider is
24 whether commercial realities dictate that this case is about
25 one market, as Google says; or about three, as the

1 plaintiffs sometimes say. And we would direct the Court's
2 attention to the Supreme Court's recent decision in *Ohio v.*
3 *AmEx*, which talks about two-sided transaction platforms,
4 which the Supreme Court says are best understood as
5 supplying one product, transactions, that are jointly
6 consumed.

7 In *AmEx*, the product was the transaction
8 facilitated by the credit card, jointly consumed by
9 consumers on the one side and merchants on the other. And
10 the Supreme Court explained that while there is a two-sided
11 transaction market, only one market should be defined. And
12 that's because if you don't take into account both sides of
13 the market, you risk chilling the very kind of conduct the
14 antitrust laws say they're designed to protect, like the
15 kind of increased market-wide output we saw just a moment
16 ago.

17 So the evidence is going to show that this case is
18 also about a two-sided market facilitating a single
19 transaction. So just as the credit card facilitated the
20 transactions between consumers and merchants, ad tech is the
21 technology that facilitates the transactions between content
22 creators who are selling digital ad space and the
23 advertisers who want to buy that ad space. And this is why
24 the Court is going to hear, and saw on the plaintiffs' own
25 slides, the terms buy-side and sell-side. Buy-side is the

1 advertisers, and the sell-side are the entities that sell
2 digital ad space, also called publishers. And so every time
3 in this trial that we hear buy-side and sell-side, that is
4 referring to one two-sided market.

5 Plaintiffs' own finding of fact at paragraph 26
6 concedes, the ad tech industry has developed around these
7 automated matching of publishers and advertisers, and they
8 describe it as the buy-side and sell-side. So that is
9 describing one two-sided transaction market.

10 Now, that's not obviously what plaintiffs' counsel
11 just told the Court, and on these slides, you can see why.

12 On the left, you see that Google has no more than
13 25 percent share in a single two-sided market, and that
14 Google's share is falling and has been falling for some
15 time. On the right, you can see that the revenue is going
16 up for Google, and that shows that the pie is growing while
17 Google's own share is shrinking.

18 Now, it's because of Google's share in this single
19 two-sided ad tech market that plaintiffs reference in their
20 findings of fact, that plaintiffs are going to try very hard
21 to get the Court to ignore the *AmEx* case. But just as the
22 Supreme Court in *AmEx* rejected the argument that individual
23 tools created for the purpose of facilitating a
24 jointly-consumed transaction constitute separate markets, so
25 must this Court reject that same claim.

1 Now, contrary to Supreme Court precedent, and even
2 though the witnesses in this case that we'll hear will talk
3 about buy-side and sell-side, the plaintiffs slice and dice
4 the market into three separate pieces based on three
5 particular tools out of the many that exist.

6 These are the definitions of the alleged markets
7 from the plaintiffs' complaint. They allege a publisher ad
8 server market for open-web display advertising, a market for
9 ad exchanges for indirect open-web display advertising, and
10 a market for advertiser ad networks for open-web display
11 advertising. It is plaintiffs' burden to prove that these
12 are real markets and that they reflect commercial reality,
13 and they are not going to be able to meet that burden.

14 First, these things do not exist. There is no
15 such thing as a tool for open-web display advertising.
16 Second, while there are scattered references in documents to
17 the individual terms "open web" and "display," at this stage
18 of the case there is not a piece of evidence or witness
19 testimony -- including from plaintiffs' own fact
20 witnesses -- who defined open-web display advertising in the
21 way that the plaintiffs are urging the Court to do. Their
22 own expert has said that these markets were delineated for
23 this case. In other words, they were made up for this
24 litigation.

25 Now, the Fourth Circuit has a case called *It's My*

1 Party where they say no party can expect to gerrymander its
2 way to antitrust victory without due regard for market
3 realities. But that is exactly what's happening here, and I
4 want to take a moment to break this down.

5 So, first of all on indirect, direct deals are
6 sales directly between publishers and advertisers with no
7 auction, and they make up a full 70 percent of all digital
8 ads spent. Paragraph 246 of plaintiffs' finding of fact
9 concedes that most significant publishers sell through both
10 direct and indirect channels. Yet, even though the majority
11 of spend is accounted for by buyers and sellers who transact
12 in both direct and indirect deals, in other words, they are
13 substitutes, plaintiffs entirely exclude direct deals from
14 their alleged markets, and that is not commercial reality.

15 All right. Second, the term "open." Plaintiffs
16 say that a website is part of the open web only if the
17 website owner uses third-party ad tech and not its own ad
18 tech. In other words, according to the plaintiffs, the
19 newyorktimes.com and wallstreetjournal.com are part of the
20 open web even though both sides require a log-in and a
21 paywall. But amazon.com, which can be freely accessed at
22 any time by anyone, is not the open web because Amazon uses
23 its own ad tech tools. And I just heard plaintiffs' counsel
24 say that without open display revenue, websites would be
25 blocked by paywalls, but they include the sites that are

1 blocked by paywalls and then exclude the sites that aren't.

2 All right. Then they say "web." So plaintiffs
3 tell the Court focus only on the web, and they put up a
4 picture of a desktop computer with a browser up there, even
5 though for the last decade or so, people have spent way more
6 time seeing ads on apps and, a little bit more recently,
7 connected TV, also called streaming. Crucially, ads on apps
8 and connected TV are served by the same tools that the
9 plaintiffs say define their markets. Again, not commercial
10 reality.

11 Then we talk about display. And the plaintiffs
12 here also pick and choose among types of ads that also
13 appear on websites. So, for example, plaintiffs carve out
14 instream video and native ads. And native ads are just ads
15 designed to blend into the context around them. And the
16 reason they do that is because native ads are especially
17 popular on social media, and so plaintiffs gerrymander them
18 out. Again, not commercial reality.

19 So plaintiffs' gerrymander definition is really
20 indirect, but not direct transactions; for display ads, but
21 not native ads or instream video; that appear on websites,
22 but not apps, social media or connected TV; operated by
23 publishers who use third-party ad tech but not their own ad
24 tech. And that is the definition that they urge this Court
25 to accept. It leads to many, many absurd results. I'll

1 highlight just two here.

2 According to plaintiffs' definition, you can have
3 the exact same ad, from the exact same advertiser, placed in
4 the same exact article by the same publisher, placed using
5 the exact same tool seen by the exact same user, but if it's
6 on the washingtonpost.com website, it's included, but not if
7 it's on The Washington Post app. And that they do even
8 though The Washington Post itself is driving users
9 overwhelmingly to the app.

10 All right. Another absurd result. Under
11 plaintiffs' definition, Amazon was in the market until some
12 date in October 2015 when it switched from using Google's ad
13 server to using its own proprietary ad server.

14 Now, Amazon's ad server was literally a substitute
15 for Google's, but it is excluded by the plaintiffs, even
16 though substitution is what defines a market. And
17 plaintiffs, obviously here, are trying to gerrymander out a
18 very significant competitor. And Amazon is not the only
19 company that has substituted in-house ad serving for
20 Google's ad server. LinkedIn, Snapchat, eBay, Reddit, they
21 all did the same thing. And some companies, like the New
22 York Times, Yahoo, IMDb and others, they go the other way,
23 they substitute Google's ad server for their own. So there
24 is substitution in the ad server market excluded by the
25 plaintiffs, not commercial reality.

1 Now, plaintiffs, as the Court will see, rely for
2 their market definition entirely on Professor Robin Lee.
3 And his testimony is only going to serve to reveal the
4 serious flaws here.

5 Professor Lee says his markets are defined by the
6 ad tech tools, not the underlying ads. But then when he
7 calculates market share, he counts only impressions for one
8 kind of underlying ad, and that sleight of hand claiming his
9 market is the tool, the counting market share only for one
10 function of the tool, is what allows him to artificially
11 inflate those market share numbers. And this is
12 particularly outrageous because Professor Lee admits that
13 all of these tools have multiple functions, like transacting
14 ads for apps and connected TV, which are extremely popular.
15 But he, nonetheless, arbitrarily excludes them from his
16 calculations. And he admits he's done no analysis of
17 whether advertisers and publishers particularly value the
18 ability to transact open-web display as compared to these
19 other very popular functions. And so taken together and as
20 a legal matter, Professor Lee's analysis is not going to
21 tell us anything about substitution or competition in the
22 market for these tools.

23 Now, the chart that the government showed you is
24 also not commercial reality. Once you add back in all of
25 the competition that plaintiffs have gerrymandered out, the

1 market share numbers go way down. And that's true for all
2 of these three alleged markets that make up the plaintiffs'
3 case, but we've put on the screen the ad exchange market
4 because it's really the heart of the plaintiffs' case.

5 On the pie chart on the right, you see 17 percent
6 Google share, and that's what happens when you include
7 reasonable substitutes like the in-house ad exchanges and
8 app and video exchanges.

9 But even under plaintiffs' own number -- and the
10 34 percent is based on spend. They showed you 56 and 47,
11 that's based on impressions. But under any of the numbers
12 that the plaintiffs put forward for ad -- for Google's share
13 in the ad exchange market, it's nothing anywhere near a
14 monopoly share. And the Supreme Court has said that
15 75 percent is the low end. So every one of plaintiffs'
16 numbers is below the threshold set by the Supreme Court.

17 All right. Moving on with all alacrity to the
18 second and independent reason that all plaintiffs' claims
19 fail is because under the Supreme Court's duty to deal
20 precedence, Google's conduct is per se legal and protected,
21 and if the Court finds this to be the case, it need not
22 reach any of the elements of plaintiffs' antitrust claim.

23 Now, on the screen is language from the key
24 Supreme Court case called *Trinko*, which says that firms are
25 free to establish an infrastructure that makes them uniquely

1 suited to serve their customers and cannot be compelled to
2 share the source of their advantage. In other words, a
3 Court cannot compel Google -- as plaintiffs mentioned in the
4 last sentence of opening -- to give rivals access to
5 Google's technology that is comparable to Google's own.

6 Refusal to deal, according to the Supreme Court,
7 are pro and not anticompetitive. And one of the reasons for
8 that is because integrated systems encourage investment and
9 innovation, they're much more secure, and they drive prices
10 down. And so in this trial, we're going to see that when
11 consumers choose to use Google's buy and sell-side tools
12 together, the costs are much lower than the competition.
13 And, by the way, the same is true for Microsoft, which also
14 offers an integrated stack.

15 Now, the Supreme Court, several years after
16 *Trinko*, affirmed its holding in a case called *Linkline*,
17 making clear that a firm has no obligation to deal under
18 terms and conditions favorable to its competitors. And DOJ
19 antitrust officials have not been shy giving frequent
20 speeches calling *Trinko* and *Linkline* error, saying this
21 precedent is no longer relevant and saying that it "need not
22 be set in stone." But unless and until the Supreme Court
23 rules otherwise, *Trinko* and its progeny bind this Court.
24 And for our purposes then, this precedent is set in stone.

25 Justice Gorsuch, when he was Judge Gorsuch, in

1 2013 in a case called *Novell*, said that these principles
2 apply with full force to technological innovation. He
3 wrote: "Forcing firms to help one another would also risk
4 reducing the incentive both sides have to innovate, invest
5 and expand, results inconsistent with the goals of
6 antitrust." And he said that: "If forced sharing were to
7 become the order of the day, Courts would have to become
8 central planners, which courts are ill-equipped to do." And
9 caution is particularly on point in a case like this one
10 where the technology is so complicated and so sophisticated
11 that plaintiffs originally said they needed ten weeks to
12 explain it.

13 So the evidence in this case is going to show that
14 all of the plaintiffs' alleged anticompetitive acts are
15 protected as lawful refusals to deal. And at this point in
16 the case, we are down to only five acts alleged by
17 plaintiffs' experts to be anticompetitive. The five are
18 listed here. This is paragraph 12, subsection 3 of
19 Professor Lee's report. And it's clear on the face that for
20 each of these acts, what plaintiffs are demanding is that
21 Google offers rivals access comparable to Google's own.

22 So when plaintiffs say that rival exchanges need
23 to have comparable access to Google Ads demand, Google Ads
24 demand refers to Google's advertisers' customers. That's
25 our customer base. And when plaintiffs say they want rival

1 ad servers to have comparable access to real-time bidding on
2 AdX, that refers to Google's technological infrastructure.
3 So the demand that Google share its customer base and
4 technological infrastructure is squarely foreclosed by the
5 language of *Trinko* and *Linkline*.

6 Now, the fifth anticompetitive act listed here,
7 the one about AdMeld, is the only one that doesn't talk in
8 this paragraph about comparable access for rivals. But
9 elsewhere in Professor Lee's report, paragraph 731, he makes
10 clear that plaintiffs' complaint is that after Google
11 acquired AdMeld -- and, by the way, Google rebuilt -- after
12 these acquisitions, rebuilt on its platform all of this
13 technology, as the Court will hear. But the real complaint
14 about AdMeld is it didn't incorporate a feature that would
15 provide real-time bidding to rival publisher ad servers.

16 Google incorporated every other feature, every
17 feature that publishers actually used, moved over all of the
18 AdMeld employees, many of whom are still at Google, and, at
19 bottom, this is going to be just another demand for rivals
20 to share Google's technological infrastructure.

21 Plaintiffs' finding of fact speaks in the language
22 of refusal to deal. So in paragraph 68, when plaintiffs say
23 that Google has "conditioned effective access to any one of
24 its tools on customers using its own ad tech tools rather
25 than those of its competitors," that is expressly describing

1 a refusal to deal protected by the Supreme Court.

2 Now, recently in the *Search* case, Judge Mehta
3 ruled that *Trinko* foreclosed a claim that mirrors the ones
4 that plaintiffs bring in this case. In other words, this
5 case is the same as the part of the *Search* case that Google
6 won. At issue there was Google's search ads 360 buying
7 tool, which enables advertisers to buy search ads across
8 different online platforms, including both Google and
9 Microsoft. Plaintiffs argued that Google engaged in
10 exclusionary conduct by failing to incorporate search ads
11 360 auction-time bidding capabilities for Microsoft's
12 platform that it had developed for Google's platform. So
13 there it was auction-time bidding; here it's real-time
14 bidding. It's the same argument.

15 And Judge Mehta found that Google's refusal to
16 give rivals comparable access was not actionable, and he
17 also said that: "Adjudicating the claim would require the
18 Court to act as a central planner and grapple with questions
19 the Court was ill-equipped to handle, like when and how
20 Google should integrate with rivals." And Judge Mehta
21 questioned how the Court could possibly administer a remedy,
22 and he cited *Trinko*, saying that any relief for plaintiffs
23 presumably would require Google to ensure feature parity on
24 Google's tools now and into the future. Parity on Google's
25 tools is exactly what plaintiffs here seek.

1 And plaintiffs are going to try to fend off the
2 weight of the Supreme Court precedent by relying on a 1951
3 Supreme Court case called *Lorain Journal*. But in that case,
4 a local newspaper punished advertiser customers who
5 advertised with the local radio station. And there's going
6 to be no evidence in this case that Google did anything to
7 prohibit its customers from working with other ad tech
8 competitors. And, actually, the pie charts here are showing
9 that people multi-home. They use a multitude of tools on
10 the buy-side and sell-side all the time, and Google doesn't
11 do a single thing to prevent that.

12 All right. Lastly, all of Google's conduct had a
13 valid business purpose. And in the Fourth Circuit, it's the
14 plaintiffs' burden under an en banc case called *Oksanen* to
15 prove that these innovations were not animated by a valid
16 business reason or concern for efficiency.

17 And plaintiffs are not going to be able to meet
18 that burden either. Google executives and engineers are
19 going to come to the Court, and they are going to tell the
20 Court why they made the product design decisions that they
21 did. They're going to tell you how each change improved
22 upon what came before, and with great pride, they are going
23 to show the Court the products. They are going to talk
24 about the deep importance of protecting security and privacy
25 and offering choice and control to the customers about how

1 those customers buy and sell.

2 And the Court is going to see for itself that
3 these Google witnesses are not sitting around thinking how
4 do we do something rapacious or nefarious. They're
5 thinking -- and admittedly sometimes writing very discursive
6 emails about -- how do we solve really difficult problems
7 for our customers who are the publishers and the advertisers
8 selling and buying digital ad space.

9 Now, even from its earliest days, Google has
10 sought -- and the documents will show this -- to enable the
11 highest ROI for advertisers, the highest yield for
12 publishers, and to protect the user experience. And these
13 are principles, publishers yield, advertiser ROI, and user
14 experience, which includes security, that are going to come
15 up again and again and again from the Google witnesses in
16 this case, and it will be plaintiffs' burden to prove that
17 all of those things are not valid business reasons.

18 And the Court is also going to hear that even
19 though Google wasn't required by the law to do this, it
20 worked for years to make its products interoperable with
21 competitors.

22 And plaintiffs' complaint is similar to the claim
23 rejected in the *Search* case, that it didn't happen fast
24 enough. But the Google engineers are going to explain why
25 these things need to be done prudently and thoughtfully,

1 because otherwise you jeopardize security and privacy when
2 you open up your tools to competitors. But ultimately,
3 Google succeeded in doing both.

4 Today, publishers, using Google Ad Manager, can,
5 with security and privacy, connect to 30 competitor
6 exchanges through Open Bidding, they can connect to 100
7 exchanges using header bidding, and publishers using
8 Google's ad exchange can connect with advertisers using 100
9 different buying tools.

10 Advertisers using Google's buying tools can buy ad
11 space on over 100 competitor exchanges. And AdX direct tags
12 can be used by publishers using third-party ad servers to
13 access Google's advertiser demand. And plaintiffs'
14 counsel -- and throughout this trial, they're not going to
15 show you any of that on their chart, and that is not
16 commercial reality.

17 All right. The evidence is going to show that
18 every single one of the acts complained about had valid
19 business reasons. For example, on this slide you see
20 Dynamic Allocation which increased publisher revenue by
21 136 percent. And plaintiffs talked about first look and
22 last look. Well, publishers chose whether to put AdX first
23 or last, and the reason they did that is to increase their
24 own yield, and that is pro competitive, and that is a valid
25 business reason.

1 So those are the three independent reasons that
2 plaintiffs' claims are going to fail.

3 And let me talk one second about some of the
4 witnesses.

5 The federal agency advertising executives,
6 handpicked by the government in this case, are the canary in
7 the coal mine. The plaintiffs are not going to call any of
8 these witnesses, but Google will, so the Court will hear
9 from them. None of them had ever heard of open-web display
10 advertising, none ever complained to the DOJ, and even after
11 having read the plaintiffs' complaint, none of them said
12 that Google was doing anything anticompetitive. And,
13 instead, the Court is going to hear that Google's products
14 were part of some of the government's most important
15 advertising projects: The first online census, military
16 recruitment for the Army and the Navy, and veterans suicide
17 prevention for the VA. And so the plaintiffs' own witnesses
18 and the small businesses that we talked about, those are the
19 witnesses, those are the businesses who are going to be hurt
20 if the plaintiffs prevail.

21 And so, in closing, I will just say, I think we
22 should take all a very good hard look at the first four
23 columns of this chart. These will be the winners. It's not
24 going to be the eight federal agencies, and it's not going
25 to be the small businesses of today and tomorrow. The four

1 witnesses have -- the four winners in this chart have
2 already spent years investing in advanced technologies,
3 including AI, which is already changing every single thing
4 we're going to talk about in this trial, and they are all
5 ascendant while Google's share is falling. And yet
6 plaintiffs say that after 16 years of extraordinary
7 investment and innovation, greater interoperability and
8 choice than ever before, competition will be better served
9 without Google in the market. And the truth is that what
10 plaintiffs seek could do real damage.

11 Courts are warned time and again in Section 2
12 cases about the serious risk of error and unintended
13 consequence associated with finding antitrust violations
14 where technology markets are rapidly changing. And yet
15 plaintiffs' case is a little bit like a time capsule, that
16 if you broke it open, you would find a BlackBerry and an
17 iPod and a Blockbuster video card, and none of those is
18 available today.

19 And so we'll leave the Court with this thought,
20 which is that it is extremely dangerous to design entirely
21 prospective relief through the lens of ancient history.

22 THE COURT: All right. Thank you, Ms. Dunn.

23 MS. DUNN: Thank you, Your Honor.

24 THE COURT: And you're free to leave if you need
25 to.

1 MS. DUNN: Excuse me?

2 THE COURT: You're free to leave.

3 MS. DUNN: Thank you.

4 THE COURT: Thank you, Counsel.

5 Ms. Wood or whoever is going to be calling your
6 first witness. And who will that witness be?

7 MR. TEITELBAUM: Good morning, Your Honor. The
8 plaintiffs call Tim Wolfe.

9 THE COURT: Tim Wolfe. All right.

10 MR. TEITELBAUM: And with the Court's permission,
11 we have binders that contain the demonstratives that we
12 anticipate using.

13 THE COURT: All right. You'll have my clerk --
14 Chris, do you want to help.

15 Have you provided a list of witnesses you
16 anticipate calling today? Remember, we were going to have a
17 list each day so I'll know who's on deck.

18 MR. TEITELBAUM: I can tell the Court that
19 information right now, and we can also make a list. We'll
20 be calling Mr. Wolfe, followed by Mr. Casale, followed by
21 Mr. Lowcock.

22 THE COURT: Thank you.

23 MR. TEITELBAUM: Your Honor, in terms of -- I know
24 this is our first go-around here with air traffic control.
25 Mr. Wolfe does have counsel present, and with the Court's

1 permission, if we could swap out one of our seats in the
2 jury box and allow him to sit there just during the
3 testimony.

4 THE COURT: All right. Before the witness takes
5 the oath, where are the notebooks for the witness?

6 MR. TEITELBAUM: I think we're in the process of
7 passing those out right now. I'm sorry for the delay. Is
8 it permissible for -- we could hand them to the court
9 security officer here.

10 MS. RHEE: Your Honor, one request would be
11 insofar as the witness has individual counsel, for all such
12 witnesses, that seat be made available then in the jury box.

13 THE COURT: Yeah. When we get to Google
14 witnesses, yes.

15 MS. RHEE: Thank you.

16 MR. TEITELBAUM: Three of those are for the Court,
17 and one of those is for the witness.

18 THE COURT SECURITY OFFICER: Okay.

19 THE DEPUTY CLERK: Can you raise your right hand.

20 Thereupon,

21 TIMOTHY WOLFE,
22 having been called as a witness on behalf of the plaintiffs
23 and having been first duly sworn by the Deputy Clerk, was
24 examined and testified as follows:

25 (Time noted: 10:03 a.m.)

DIRECT EXAMINATION

BY MR. TEITELBAUM:

Q Good morning, Mr. Wolfe. How are you doing?

A Good.

Q Would you please just tell us your name and spell your last name, please.

A Sure. Full name Timothy Scott Wolfe, W-O-L-F-E.

Q Can you please tell the Court where you work right now.

A Gannett.

Q Can you please tell the Court a little bit about what type of company Gannett is.

A Sure. Broadly, Gannett is a publishing company.

Q And what type of publishing operations does Gannett have?

A Predominately newspapers.

Q Can you estimate about how many total newspapers Gannett operates around the country?

A I believe it's around about 340 total digital media and news, property and brands.

Q And are there any national news titles that are included in that list?

A Yes. USA Today being our most prominent national news.

Q Are there any more regional big city titles that are included?

A Sure. Arizona Republic, the Detroit Free Press, The

1 Des Moines Register, the Nashville Tennessean.

2 Q And what about smaller local papers in the Virginia,
3 D.C., Maryland area?

4 A Sure. The one closest here to us, I think in Virginia,
5 is the Staunton News Leader. Additionally, there is The
6 Herald-Mail in Hagerstown, Maryland, as well as The Daily
7 Times in Salisbury, Maryland.

8 Q Can you please tell the Court what your duties and
9 responsibilities are right now at Gannett?

10 A Sure. Broadly speaking, I oversee the revenue
11 operations organization, which is responsible for supporting
12 the implementation of our direct sold campaigns, as well as
13 oversight of inventory management and the programmatic or
14 indirect monetization of our owned-and-operated properties.

15 THE COURT: Mr. Wolfe, keep your voice up, please.

16 MR. TEITELBAUM: Yeah. And if it helps, you can
17 scoot a little bit closer to the microphone.

18 BY MR. TEITELBAUM:

19 Q And you mentioned inventory, a couple of other terms.

20 What, if anything, do all of those
21 responsibilities have to do with advertising?

22 A They are all fundamentally in support of advertising.

23 Q In other words, Gannett's sale of its advertising
24 inventory?

25 A Yes.

1 Q And what specifically is your title at Gannett right
2 now?

3 A Senior vice president of revenue operations.

4 Q How long have you worked at Gannett all together?

5 A Gosh about 14, 15 years at this point.

6 Q Do you remember what year you joined?

7 A 2008. In June.

8 Q And how much of your time that you've spent at Gannett
9 have you been responsible for Gannett's advertising
10 operations?

11 A All but ten months of that.

12 Q Where did you work before you worked at Gannett?

13 A America Online.

14 Q Can you give the Court just a brief overview of what
15 your responsibilities were at America Online?

16 A Sure. When I initially started, I was an associate
17 analyst in the billing/finance department for the
18 advertising group. I quickly moved into what was called
19 inactive marketing, which was the online advertising name
20 for America Online at the time. Over time, that grew into
21 what was considered a publisher delivery role. So
22 responsible for how much content was programmed in certain
23 areas to drive traffic based on how much ad revenue lived in
24 certain content categories.

25 Q And when you say "drive traffic," were you talking

1 about Internet traffic in general terms?

2 A Yes. Internal promotion of traffic, yeah.

3 Q About how many years all together have you spent
4 working in the advertising industry in some fashion?

5 A It's pushing 25, 26 years at this point.

6 Q So we spoke a little bit about the newspapers that
7 Gannett owns and operates.

8 About how many of those newspapers that you
9 described, the 200-plus, how many of those have websites?

10 A Almost all of them.

11 Q Almost all?

12 A Yep.

13 Q Let's talk specifically now about the Staunton News
14 Leader.

15 I believe you mentioned that was the Virginia
16 paper that Gannett owns?

17 A Yes.

18 Q Does it cost money for an Internet user to log onto the
19 Staunton News Leader website and read the news?

20 A No.

21 Q Is there any content that does require payment?

22 A Yes.

23 Q And can you just explain to the Court, what's the
24 difference between the stuff that's free and the stuff
25 that's not free?

1 A Sure. Broadly speaking, there will be pieces of
2 content that our journalists will create that we'll deem to
3 be something that we want to make only available to our
4 subscribers. So it's more of an incentive to subscribe
5 beyond the majority of the content that you'll be able to
6 receive or consume for free.

7 Q You mentioned USA Today as the national title that
8 Gannett operates.

9 Is it free for an Internet user to log onto the
10 USA Today website and start reading the news?

11 A Yes.

12 Q Could you explain to the Court, please, how it is
13 possible that Gannett is able to offer free access to these
14 newspapers on the Internet?

15 A Well, there's compensation associated with advertising.

16 Q By selling advertising?

17 A By selling advertising on the websites and properties,
18 yes.

19 Q Other than selling advertising, what other options does
20 Gannett have to make money or generate revenue?

21 A The two primary ways are subscriptions and advertising.

22 Q Can you give the Court an overview of the types of
23 activities that advertising revenue funds at Gannett?

24 A It fundamentally supports and pays for our core -- for
25 our journalists, which is our core product.

1 Q About how much revenue each year comes from selling
2 advertising inventory on both the print and digital
3 properties that you described?

4 A I believe it's between 8 and 900 million was the number
5 for last year.

6 Q And out of that number, about how much of that is
7 coming from digital advertising revenue?

8 A I think the number was around 330 million.

9 Q In a circumstance where advertising revenue goes down,
10 what options does Gannett have to replace that revenue with
11 something else?

12 A None.

13 Q Broadly speaking, does Gannett use technology to sell
14 digital advertising on its various websites?

15 A Yes.

16 Q And does Gannett have to pay any fees to use that
17 technology?

18 A Yes.

19 Q All together, about how much does Gannett pay each year
20 for technology to sell digital advertising?

21 A All in, it will be north of -- well, from a revenue
22 share, north of \$15 million.

23 Q And roughly out of that approximate \$15 million figure,
24 how much does Gannett pay to Google?

25 A It would be north of about \$10 million.

1 Q I want to switch gears just a little bit.

2 Can you give the Court an overview of what has
3 happened to Gannett's business over approximately the past
4 ten years?

5 A Sure. Well, I've been there about 15. I want to say
6 when I started, I think the company had around 33,000 or so
7 employees. I think we're currently down to somewhere
8 between 10 and 11,000. So there's been significant
9 constraint --

10 Q Could you --

11 A -- in advertising.

12 Q Could you explain to the Court where those constraints
13 are coming from?

14 A Well, those constraints are coming from our ad revenue.

15 Q Reduction in --

16 A Reduction in ad revenue and subscription revenue.

17 Q Has there been any change for Gannett in its reliance
18 on print advertising versus digital over roughly the past
19 ten years?

20 A Yes. I mean, as print has declined, there's been a
21 greater need for, you know, continued growth of our digital
22 revenue.

23 Q Switching gears just a little bit.

24 To your knowledge, is Gannett currently involved
25 in litigation against Google in a related case pending in

1 New York?

2 A Yes.

3 Q And without going into great detail about that case,
4 fair to say that the allegations have some similarity to
5 this case?

6 A I'm not a lawyer. Broadly speaking, I don't know what
7 the differences or similarities are.

8 Q Do you know whether or not you stand to gain
9 financially from what happens or what may happen in that
10 case in New York?

11 A I have no idea.

12 Q Let's turn now and talk about some more specifics about
13 advertising.

14 Are you familiar with a term called display
15 advertising?

16 A Yes.

17 Q Could you please tell the Court what display
18 advertising is.

19 A Sure. In a very simplistic way or explanation is that
20 any website that you go on, any of the boxes or rectangles
21 that may be above or adjacent to, beside the content are
22 traditionally referred to as display advertising.

23 Q So you should have a binder behind you at the witness
24 stand.

25 MR. TEITELBAUM: And with the Court's

1 permission -- we've conferred with Google about the
2 demonstratives that are in this binder, and there have been
3 no objections to those. And so with the Court's permission,
4 I would like to display Plaintiffs' Demonstrative B to the
5 gallery and also to the witness.

6 THE COURT: All right. For some reason in my book
7 it's not there. But you're just going to put it on the
8 screen?

9 MR. TEITELBAUM: So we'll do that. And there
10 should also be -- it's a large format print. So there
11 should be one in the pocket.

12 THE COURT: Okay. Got it.

13 So for the record then, how are we -- this is just
14 a demonstrative?

15 MR. TEITELBAUM: Correct, Your Honor.

16 THE COURT: But you want it made part of the
17 permanent record?

18 MR. TEITELBAUM: We would like it made part of the
19 record, but we will not be offering it into evidence.

20 THE COURT: All right. And there's no objection;
21 right? Very good.

22 MR. TEITELBAUM: Thank you.

23 BY MR. TEITELBAUM:

24 Q Mr. Wolfe, so feel free to take a look at either the
25 hard copy or at the one on the screen.

1 And let me just ask you, do you see any display
2 advertisements on this page?

3 MR. TEITELBAUM: And, yeah, we can zoom just kind
4 of to the top half.

5 THE WITNESS: I do, yes.

6 BY MR. TEITELBAUM:

7 Q And could you just indicate to the Court where those
8 are.

9 A Sure. The -- there's one currently at the very top of
10 the page, and there's also a shoe ad in the -- what we
11 consider the right rail down on the right side of the page.

12 THE COURT: All right. For purposes of the public
13 who's trying to watch this, can we blow up that section?
14 And you can use your finger on the screen and actually
15 circle what you were just talking about.

16 THE WITNESS: All right.

17 THE COURT: Let's blow it up first so people can
18 see it more clearly. Can we do that?

19 MR. TEITELBAUM: I think that's as large as we can
20 make it, Your Honor.

21 THE COURT: All right. With your finger, go
22 ahead.

23 THE WITNESS: (Indicating.)

24 THE COURT: Okay.

25 THE WITNESS: There's one of the ads at the top of
58

1 the page. There's another one in what we consider the right
2 rail on the side of the page.

3 THE COURT: All right. If you touch the screen
4 again, it should erase. There we go.

5 THE WITNESS: There it goes.

6 MR. TEITELBAUM: Thank you, Your Honor.

7 BY MR. TEITELBAUM:

8 Q And just for the sake of the record, the Number 1 in
9 sort of the light pink color, that's not part of the actual
10 web page; right?

11 A That's correct.

12 Q And this particular newspaper that we're looking at,
13 which newspaper is this?

14 A This is the Staunton News Leader.

15 MR. TEITELBAUM: Okay. So we can take
16 Demonstrative B down for the moment.

17 BY MR. TEITELBAUM:

18 Q And let's talk a little about how display advertising
19 from a newspaper's website is sold.

20 A Sure.

21 Q First of all, are you familiar with a term called an
22 impression?

23 A Yes.

24 Q Could you please explain what an impression is.

25 A Sure. I don't know if we want to have the ...

1 Q Actually, yeah. Sure. Why don't we put Demonstrative
2 B back up there. I'm sorry for taking it down and up.

3 A Yeah. If you show it, it will be helpful.

4 MR. TEITELBAUM: If we could once again zoom into
5 the top half of that and make it as big as possible.
6 Thanks.

7 THE WITNESS: Sure. So an impression is what is
8 actually registered for every discrete -- so previously I
9 had circled this one. That is one impression.

10 The other ad unit on the page would be the second
11 impression on this page view.

12 BY MR. TEITELBAUM:

13 Q And when a different person around the same time logs
14 onto the News Leader website and looks at it, is that person
15 looking at the same impressions or different impressions?

16 A Different impressions.

17 Q So each person is looking at different impressions?

18 A Yes. Every -- yes. Every visit generates new
19 impressions.

20 Q And each of those boxes is also its own impression each
21 time it's shown to a different person?

22 A Correct. Yes. The ad units, the positions on the page
23 are discrete and unique, yes.

24 Q Could you tell the Court a little bit about how digital
25 advertising on a newspaper's website is priced? What are

1 the different ways of pricing?

2 A The two primary ways or potentially three primary ways
3 that digital inventory is priced is first a sponsorship. So
4 it is an expectation, also kind of referred to in some cases
5 as a share of voice where an advertiser has an expectation
6 of showing up in a very specific position for a defined
7 period of time, and they are guaranteed to show up
8 100 percent of the time for that point in time.

9 The next one is what is considered CPM, M being
10 the roman numeral for 1,000. Cost per thousand impressions.
11 So we sell -- think of it as selling the impressions in
12 blocks of 1,000. So you may have a -- for example, a \$10
13 CPM means somebody's paying \$10 per 1,000 impressions.

14 Additionally, there are other buy types. I think
15 cost-per-click or CPC is another -- is another way that
16 advertising is fundamentally sold. In that case, it is a
17 little bit different in terms of how monetization works. In
18 those cases, the ad will appear, but the publisher would not
19 actually get paid unless somebody actually clicked on the
20 ad.

21 Q Are you familiar with something in the context of
22 selling advertising on a website as a direct deal?

23 A Yes.

24 Q Could you explain to the Court -- and if you need to
25 refer back to your previous explanation, please go ahead.

1 What is a direct deal?

2 A Sure. A direct deal is a deal that is established
3 between a seller at a publisher with a buyer -- with a
4 direct buyer, whereby a relationship is formed and a media
5 plan is actually built defining and outlining the
6 advertising that will run on the publisher's website. So a
7 relationship between two parties, two individuals.

8 Q And to what degree does a direct deal require humans to
9 interact with each other?

10 A Yes. Those humans have to come together to find
11 agreement on what the advertising media plan will be.

12 Q So sticking with the Plaintiffs' Demonstrative B here,
13 could you just give us an example of how a direct deal might
14 work for the dog food ad that's at the top of the News
15 Leader there?

16 A Sure. We would have -- a Gannett seller and a media
17 buyer would have come together to say I want to run -- I
18 believe this is the home page. I want to run on the home
19 page of the Staunton News Leader. That deal will get
20 signed, it will be implemented by the publisher to ensure
21 that that ad runs exactly where the advertiser's decided for
22 it or wants it to run.

23 Q Are you also familiar with a type or a method of
24 selling advertising known as programmatic?

25 A Yes.

1 Q Could you please explain to the Court what a
2 programmatic sale is?

3 A Sure. Programmatic contrasts from direct in that there
4 isn't necessarily any human involvement. It's mostly a
5 communication that occurs between the ad server and the
6 programmatic partners whereby an auction occurs that creates
7 a match for an ad request and a -- which is -- has a user
8 behind it and a buyer who wants to potentially show an ad to
9 that user.

10 Q Is it feasible for Gannett to sell all of the display
11 advertising inventory on its websites via direct deals?

12 A No.

13 Q Could you please explain to the Court why not.

14 A Sure. I think that the two big primary reasons a
15 publisher can't sell 100 percent of its inventory is, one, I
16 mean, even as large as Gannett is, we don't necessarily have
17 enough salespeople and feet on the street to actually get in
18 front of the maybe tens of thousands of potential
19 advertisers who are out there.

20 Additionally, you know, we kind of joke internally
21 it's not like we're in the airline industry where, God
22 willing, you know, a plane takes off and lands with the same
23 number of seats. From a publisher perspective, the reality
24 is, we have a different number of impressions day in and day
25 out based on news cycle, seasonality, all sorts of other

1 reasons. So it's just not feasible for a publisher to
2 direct sell 100 percent of its inventory.

3 Q About how much of Gannett's display advertising
4 inventory on its websites is sold via direct sales?

5 A It fluctuates. I would say anywhere from 25 to
6 40 percent.

7 Q Let's move on to a slightly different topic.

8 Sticking with the Staunton News Leader as an
9 example, does the Staunton News Leader also have a mobile
10 app in addition to a website?

11 A It does.

12 Q And does Gannett also -- does the Staunton News Leader
13 sell display advertising on its mobile app?

14 A Yes.

15 Q Is it sufficient for Gannett to -- is Gannett getting a
16 full return on its advertising inventory if it just sells
17 display advertising on its website but not on its mobile
18 app?

19 A No.

20 MR. TEITELBAUM: And so with the Court's
21 permission, I would like to publish Demonstrative C to which
22 there is also no objection.

23 THE COURT: All right.

24 BY MR. TEITELBAUM:

25 Q And, Mr. Wolfe, using Plaintiffs' Demonstrative C,

1 could you explain to the Court why it's not sufficient to
2 just sell display advertising on the website or just on the
3 mobile app?

4 A Sure. I mean -- so on the demonstrative, you see ad
5 space outlined in red, in the desktop environment you see
6 it -- an ad space also outlined in green. In the app
7 environment, those are -- again, we talked about impressions
8 before. These are also discrete and unique impressions that
9 are perishable in either environment.

10 Q And you said that they're perishable.

11 Can you briefly explain why that is?

12 A Because we've established that an impression happens,
13 they're all time date stamped for when a user comes to a
14 website and the ad is actually served to them, and if you
15 were to refresh the page 5 seconds later or come back
16 10 minutes later, you're likely not going to see the same ad
17 because it's -- it is a new impression. It is unique and
18 discrete in both of these examples.

19 MR. TEITELBAUM: All right. We can take
20 Plaintiffs' Demonstrative C down for now.

21 BY MR. TEITELBAUM:

22 Q Let's switch gears a little bit, Mr. Wolfe.

23 Are you familiar with something called a publisher
24 ad server?

25 A Yes.

1 Q Can you explain to the Court what a publisher ad server
2 is.

3 A Sure. An ad server is the basically cornerstone
4 technology that is used by publishers to manage their
5 inventory, to manage the implementation and delivery of
6 their direct sold campaigns. It participates in
7 facilitating part of the programmatic environment. It is,
8 again, the cornerstone technology for serving ads on pages.

9 Q And when you say "inventory," could you just explain to
10 the Court what that refers to.

11 A Sure. Inventory, in our world, means those individual
12 ad spaces that we've seen. They all have a mapping in the
13 ad server that associates that discrete ad space on a
14 per-platform basis to the inventory. So when we go to sell,
15 we know specifically, you know, what inventory, what ad
16 space we're selecting to facilitate that sale.

17 Q To sell display advertising on its newspaper websites,
18 what publisher ad server does Gannett use?

19 A We currently use Google Ad Manager.

20 Q And does Google Ad Manager encompass multiple ad tech
21 tools right now?

22 A It does now, yes.

23 Q Could you explain to the Court what the ad tech tools
24 are that are included within Google Ad Manager.

25 A So there's, you know, what used to be called DFP,

1 DoubleClick for Publishers is the ad serving component, and
2 the separate component is the Google ad exchange, also
3 referred to as AdX.

4 Q And was there a time previously when those were just
5 branded separately as opposed to collectively as Google Ad
6 Manager?

7 A Yes.

8 Q And so you mentioned the term "ad exchange."

9 Could you please explain to the Court what an ad
10 exchange is.

11 A Sure. And if I may, there's also another term, SSP,
12 supply-side platform. I think those two terms get used
13 fairly synonymously.

14 An ad exchange or an SSP is where a publisher will
15 offer an impression or an ad call to be matched with a buyer
16 where the auction will ultimately occur to create the
17 opportunity for an advertiser to appear on a publisher's
18 website.

19 MR. TEITELBAUM: And with the Court's permission,
20 I'd like to display Plaintiffs' Demonstrative D, to which
21 there is also no objection.

22 THE COURT: All right.

23 BY MR. TEITELBAUM:

24 Q And, Mr. Wolfe, using Plaintiff's Demonstrative D,
25 could you just explain to the Court at a basic level how an

1 ad space on a website actually gets filled with an ad?

2 A Sure. In this example --

3 MR. ISAACSON: Your Honor, I object on foundation
4 because this chart goes all the way over to the advertisers,
5 and he's testified his background is on the publisher's
6 side.

7 THE COURT: Well, he hasn't gotten to that part
8 yet, so let's see whether he goes there.

9 MR. ISAACSON: I think the question asked him to
10 go through the whole thing.

11 THE COURT: Well, let's get started.

12 MR. TEITELBAUM: And I can actually rephrase the
13 question, Your Honor, in any event.

14 THE COURT: All right.

15 BY MR. TEITELBAUM:

16 Q Just from the perspective of the publisher, Mr. Wolfe,
17 could you explain how that ad space gets filled with an ad?

18 A Sure. So on the far right at the start, as a user
19 opens up a web page that has an ad space on the page, there
20 is --

21 Q Let me just stop you. I think you said on the far
22 right. Did you mean on the far left?

23 A Far left. Sorry. I'll restart.

24 On the far left side of the page where it says a
25 user opens up a web page that has an ad space on it, that ad

1 space again will make an ad call to the ad server, in this
2 example here, that is DFP. DFP will then not only evaluate
3 the publisher's direct sold campaigns, but, at the same
4 time, it will fire off a bid request to the ad exchange
5 whereby the auction will occur, kind of cutting out the
6 back -- I mean, that ad exchange impression will then be
7 exposed to all of the demand sources behind that ad
8 exchange, in this case AdX and Google Ads. Those will
9 respond with a bid from the auction, a bid. The price that
10 the advertiser is willing to pay for that impression will
11 then be pushed back to the ad exchange and ultimately into
12 the ad server.

13 So the ad server, again, kind of the alpha and the
14 omega in the equation, which will be it starts the process
15 and it's ultimately the determining factor as to which ad
16 gets displayed to the end user.

17 THE COURT: And what triggers that is that a user
18 logs on?

19 THE WITNESS: A user launches a web page.

20 THE COURT: Right.

21 THE WITNESS: Yeah. Onto the computer, yes.

22 THE COURT: And the second that happens, this
23 process goes into effect?

24 THE WITNESS: This whole process that I just
25 explained for most publishers is less than 800 milliseconds.

1 BY MR. TEITELBAUM:

2 Q And so just to follow up briefly on the Court's
3 question, from the perspective of someone who's logged onto
4 their computer and typed in newsleader.com at the top, how
5 is that computer user experiencing all of this that you just
6 described?

7 A Well, fundamentally, the page is going to start loading
8 for them, and the content will start to load, the ads will
9 start to load, and the user will reach the desired URL that
10 they've typed in, in this case, the Stanton News Leader.

11 Q That's when this process that you just described --

12 A This process will kick off, yes, as the page is
13 loading.

14 MR. TEITELBAUM: All right. We can take
15 Plaintiffs' Demonstrative D down.

16 BY MR. TEITELBAUM:

17 Q For about how long has Gannett used DFP or Google Ad
18 Manager as its publisher ad server?

19 A Between 12 and 13 years now.

20 Q In the present day, are there any other realistic
21 options for Gannett for alternative publisher ad servers to
22 use to sell display advertising on its websites?

23 A Not that I'm aware of.

24 Q Was there a time previously within the past ten years
25 or a little more when Gannett switched from a different

1 publisher ad server to DFP?

2 A Yes.

3 Q Could you tell the Court a little bit about that
4 process.

5 A Sure. In -- I guess in 2010 or so, we started the
6 evaluation. In 2011, we moved from an instance of ad tech
7 helios, which was our previous ad server, to Google's
8 DoubleClick for Publishers product.

9 Q Could you tell the Court a little bit about what that
10 process actually entailed?

11 A The entire process -- the entire process is a very
12 heavy lift for any publisher, especially someone of our size
13 in terms of the number of websites and properties. It did
14 take us approximately a year. I believe we started in
15 November 2011 and ended in November of 2012 with the
16 migration.

17 But, again, it's such a heavy lift, you know, it's
18 akin to, you know, changing the tires on the race car mid
19 race. It's not like we can, you know -- we have to continue
20 to support all of the ad sales that we have in flight while
21 making adjustments to not only the websites, but making
22 further adjustments in integration to upstream technologies,
23 customer relationship management tools, order management
24 tools, as well as downstream financial and reporting tools.
25 So it is an incredibly laborious lift.

1 Q Was there a time more recently when Gannett considered
2 switching from DFP to a different publisher ad server?

3 A There was -- there was never a time where we had
4 actually officially solicited for a change. There was a
5 situation, I believe it was back in 2020, where a leader
6 from Smart AdServer got in touch with a leader, my boss at
7 the time, the chief revenue officer, offering to cut ad
8 serving fee rates and required us to take a look at it.

9 Q And let's just pause here for a second.

10 You used the term "ad serving fee rates." Are you
11 also familiar with a term "take rate" or "revenue share"?

12 A Yes.

13 Q Could you explain to the Court what the difference is,
14 if any, between an ad serving fee and a revenue share.

15 A Sure. An ad serving fee is the -- it's a CPM-based
16 model that is associated -- it's a cost associated with the
17 total number of impressions that a publisher serves. A take
18 rate refers to the rate -- the revenue share associated with
19 ad exchange or SSP transactions.

20 Q And does Google's ad exchange, AdX, have a take rate
21 associated with it?

22 A It does, yes.

23 Q And for a typical display ad transaction on a
24 newspaper, what is that take rate?

25 A In the Open Auction, it's 20 percent.

1 Q Has Gannett evaluated building an in-house publisher ad
2 server?

3 A No.

4 Q Could you explain why not?

5 A Again, an ad server technology is incredibly
6 sophisticated and incredibly complex. It's not something
7 that Gannett has the technical resources to build, nor is it
8 frankly a part of Gannett's core competencies to build.

9 Q Moving on to something slightly different.

10 Just in the context of selling display advertising
11 on a newspaper website, are you familiar with something
12 called real-time bidding?

13 A Yes.

14 Q Could you explain to the Court what that is, please.

15 A Sure. We touched on it a little bit earlier talking
16 about an exchange. So it is where an ad request is sent to
17 an exchange, the exchange then represents -- rerepresents
18 that same impression to the buy-side, and again, in that
19 800 milliseconds, an auction is occurring where a bid -- a
20 real-time bid is being placed and sent back to the ad server
21 for evaluation.

22 Q Why is real-time bidding helpful for a publisher, if at
23 all?

24 A Real-time bidding is helpful for a publisher because it
25 creates competition amongst many partners.

1 Q Before roughly 2015, or right around there, what
2 options did Gannett have available to it to get advertisers
3 to bid in real time on its display ad impressions?

4 A Sorry. Prior to 2015?

5 Q Yeah. Prior to about 2015.

6 A I think -- well, prior to 2015, I think the Google ad
7 exchange was the only tool capable of facilitating real-time
8 bidding.

9 Q And did anything occur in roughly 2015 that made
10 real-time bidding more widely available?

11 A Yeah. That was kind of the beginning of header
12 bidding.

13 Q Could you just briefly explain to the Court what header
14 bidding is, please.

15 A Sure. Header bidding is a snippet of code that lives
16 in the header or at the very top of the page. So as we
17 talked about that page, a user going to that page, that page
18 starting to render the ad requests via the header bidding
19 code, we'll send those requests off to your header bidding
20 partners where an auction -- a real-time bidding and an
21 auction will occur resulting in a real-time bid that will
22 get passed back into the ad server for evaluation to
23 potentially deliver an ad to that user on that web page.

24 Q Can you tell the Court what effect, if any, did the
25 arrival of header bidding have on Gannett's revenue from

1 selling its display advertising inventory?

2 A Broadly speaking, it was a -- definitely a positive
3 impact on the revenue. I think we saw CPM somewhere 15,
4 20 percent improvement shortly thereafter the launch of
5 header bidding.

6 Q And about how many different sources of advertiser
7 demand is Gannett able to work with now, approximately, for
8 selling its display advertising inventory?

9 A I think we currently work with I think 24, 25 different
10 programmatic partners.

11 Q And are any of those programmatic partners
12 participating in header bidding?

13 A Yes.

14 Q Can you estimate how many?

15 A All of them.

16 Q Okay.

17 A Almost all, yeah.

18 Q And what about demand -- advertiser demand that's
19 coming directly from AdX, is that header bidding?

20 A Well, that's a server-side integration with the ad
21 server.

22 Q Now I just want to back up a little bit.

23 When we were talking about the evaluation of
24 switching potentially to the Smart AdServer, can you tell
25 the Court, why didn't Gannett switch to the other publisher

1 ad server even though you were getting an offer to cut your
2 ad serving fees in half?

3 A Well, so in the grand scheme of fees that a publisher
4 pays to operate its technology, the ad serving fee in
5 isolation is actually very small. So even if that number
6 were to be cut in half for us, it was not going to offset
7 the revenue loss of not having direct access to the Google
8 ad exchange as a demand source for our inventory.

9 Q And could you explain to the Court, why was that going
10 to be a drawback, losing access to the demand coming from
11 Google's ad exchange, what was it about that demand?

12 A Well, broadly speaking, Google has been as high as 60,
13 currently around 50 percent of Gannett's total programmatic
14 monetization. More specifically within AdX, there's the ad
15 words demand which is a discrete piece of -- discrete chunk
16 of demand that, you know, right or wrong, has been a
17 significant percentage of Google's demand as it relates to
18 monetizing Gannett's websites.

19 Q Is ad words sometimes called Google Ads?

20 A I believe so, yes.

21 Q With respect to Gannett's business specifically, is
22 there anything unique or particularly useful about the
23 demand that comes from Google Ads specifically?

24 A Sure. I mean, as I just -- right or wrong, like,
25 Gannett has so many properties in so many niche or smaller

1 parts of the country. We've kind of already talked about
2 not being able to get in front of all advertisers, Google ad
3 words performs very well for Gannett in terms of monetizing
4 many of our local properties.

5 Q And that's because of local advertisers that are
6 available?

7 A Yes.

8 Q And are there any alternative ways for using
9 programmatic display advertising for Gannett to get access
10 to that demand from Google Ads other than using Google's ad
11 exchange?

12 A Not from a real-time bidding perspective, I don't
13 believe so.

14 MR. TEITELBAUM: May I have just one moment, Your
15 Honor?

16 THE COURT: Yes, sir.

17 MR. TEITELBAUM: No further questions for
18 Mr. Wolfe on direct examination.

19 THE COURT: All right. Then I think this is a
20 good time to take our morning break.

21 Mr. Wolfe, we're going to give you a badge so you
22 can get back in here through the crowds. I want you back
23 here at five after 11. All right. And we'll go into the
24 cross-examination at that point.

25 (A recess was taken.)

1 THE COURT: All right. Cross-examination. Go
2 ahead.

3 CROSS-EXAMINATION

4 BY MR. ISAACSON:

5 Q Sir, my name is Bill Isaacson. I've got a few
6 questions for you.

7 The USA Today network is what you referred to as
8 all of those 340 Gannett properties you mentioned; right?

9 A Correct.

10 Q And the USA Today Network -- you mentioned header
11 bidding. The USA Today Network is integrated with header
12 bidding wrappers, as well as Google's Open Bidding; correct?

13 A Correct.

14 Q Okay. And a heading bidder wrapper contains the header
15 bidding technology that you're talking about?

16 A Correct.

17 Q And the header bidding technology runs auctions outside
18 of the Google system; correct?

19 A Correct.

20 Q Now, one of the header bidding wrappers that Gannett is
21 integrated with is provided by Amazon; correct?

22 A Yes.

23 Q That's Amazon's Transparent Ad Marketplace, or TAM,
24 T-A-M?

25 A Correct.

1 Q And also, the USA Today network is integrated with
2 header bidding wrappers from something called Prebid?

3 A Correct.

4 Q And the USA Today network, at least by 2021, created a
5 unified auction for every single impression on that network
6 using header bidding and Open Bidding by Google?

7 A Header bidding separate from --

8 Q Together?

9 A In addition to?

10 Q Yes.

11 A As well as Amazon?

12 Q Yes. Is that correct?

13 A Yes.

14 Q All right. And so just to be clear that, by 2021, for
15 all of those properties, you were running a unified auction
16 where bids were requested for every impression from header
17 bidding wrappers from Amazon, from Prebid, as well as
18 Google's Open Bidding?

19 A Well --

20 MR. TEITELBAUM: Objection, Your Honor.

21 THE COURT: Wait. Wait. Wait. There's an
22 objection.

23 MR. TEITELBAUM: Objection. Compound, Your Honor.

24 THE COURT: Sustained.

25 BY MR. ISAACSON:

1 Q Okay. Then let me go through each one.

2 By 2021, you were running a unified auction in
3 which bids were requested for every impression to header
4 bidding wrappers for Amazon's TAM, or Transparent Ad
5 Marketplace?

6 A Yes.

7 Q And, by 2021, you were running that unified auction was
8 also requesting bids through the header bidding wrapper of
9 Prebid; correct?

10 A I believe so, yes.

11 Q Okay. And that unified auction was also, for every
12 impression, asking for bids from Google's Open Bidding?

13 A That's the one part that I wanted to clarify. I don't
14 know or remember. I know we don't, today, have every single
15 impression competing in OB. I don't remember if every
16 single impression was actually participating in OB in 2021.

17 Q OB is Open Bidding?

18 A Open Bidding/Exchange Bidding, yes.

19 Q So you can say that for every impression for which a
20 unified auction is being run, that it includes Amazon and
21 Prebid, some of them may also be for Google's Open Bidding?

22 A Fair enough. Yes.

23 Q And -- now, Prebid is an open source suite of products
24 that enables publishers to implement header bidding on their
25 websites?

1 MR. TEITELBAUM: Objection. Beyond the scope of
2 direct.

3 THE COURT: Overruled.

4 BY MR. ISAACSON:

5 Q Have I correctly described Prebid?

6 A I'm sorry. Repeat the question.

7 Q Prebid header bidding is an open source suite of
8 products that enables publishers to implement header bidding
9 on their websites?

10 A It is an integration type, also referred to as a
11 wrapper, yes.

12 Q And you don't have any contracts with Google that say
13 you may not work with Amazon's ad technology or Prebid's ad
14 technology; correct?

15 A To my knowledge, that's correct.

16 Q Okay. And DFP that you mentioned, DoubleClick for
17 Publishers, works with header bidding ad technology that you
18 are using from Amazon and Prebid; correct?

19 A Correct.

20 Q And it's Gannett that decides what ad technology to
21 permit to be involved in that unified auction; correct?

22 A Yes.

23 Q And you mentioned you had 20 to -- 24 to 25
24 programmatic -- I'm not sure if you called them partners.

25 A Partners. Sure. Yes.

1 Q Parters. Okay.

2 And those partners are sources of demand that
3 comes through those header bidding wrappers; is that
4 correct?

5 A Correct. And some of them may be duplicative and also
6 be coming through Amazon TAM, as well as OB, Open Bidding.

7 Q Right. And so those programmatic partners are sources
8 of demand that include other ad exchanges other than AdX;
9 correct?

10 A Correct.

11 Q So, for example -- and it also includes sources of
12 demand from buying tools that are not Google buying tools;
13 correct?

14 A Correct.

15 Q Okay. So examples of firms that have -- that you work
16 with through header bidding include AppNexus; is that
17 correct?

18 A Xandr now, but yes.

19 Q Criteo?

20 A Yes.

21 Q Facebook Mobile web?

22 A No.

23 Q Did you ever work with them?

24 A There was a Facebook instant articles, but that was
25 monetization limited to content that we posted on Facebook.

1 Q How about Index Exchange?

2 A Yes.

3 Q How about Kargo?

4 A At one point in time, yes.

5 Q How about OpenX?

6 A Yes.

7 Q How about PubMatic?

8 A Right now, yes. Yes and no. They've been on and off.

9 Q All right. How about Rubicon?

10 A Currently known as Magnite, yes.

11 Q And you work with those programmatic partners through
12 header bidding for both -- for display ads on both apps and
13 on the web; correct?

14 A Correct.

15 Q Okay. And you also work with them for video ads;
16 correct?

17 A Some of them participate with video; some do not.

18 Q All right. But --

19 A And some are specific to video.

20 Q All right. And so provide both display and video such
21 as AppNexus and Xandr?

22 A I believe so, yes.

23 Q Okay. Like OpenX?

24 A I believe OpenX. I know they're video. I think they
25 do have some display.

1 Q And so for the unified auction that's happening on the
2 USA Today network, for each and every impression, it is ad
3 tech for Google, Amazon and Prebid that are being used to --
4 for asking for bids; is that correct?

5 A Broadly, yes.

6 Q Okay. And when did Amazon introduce its header bidding
7 wrapper?

8 A Oh, gosh, I don't remember specifically what year that
9 was.

10 Q 2016, 2017 time period sound familiar?

11 A Maybe. I don't remember specifically.

12 Q The Amazon header bidding business has grown since
13 you've come to work with it; hasn't it?

14 A Yes.

15 Q All right. Now, when -- on the website and on the app,
16 there is something -- a command that you can type in
17 ads.txt, you're familiar with that?

18 MR. TEITELBAUM: Objection. Beyond the scope.

19 THE COURT: Let me hear the whole -- where are you
20 going with this question?

21 MR. ISAACSON: This is showing the partners that
22 they're working with through header bidding. I'm just
23 establishing how I'm going to show that to him.

24 THE COURT: All right. Overruled.

25 BY MR. ISAACSON:

1 Q All right. You're familiar with ads.txt?

2 A Yes.

3 Q Okay. And you can get on a -- your website, any one of
4 them, or on your apps, and type that in, and you can find
5 out who are the authorized sellers of ads on the USA -- on
6 the USA Today network; right?

7 A Not exactly, but --

8 Q Tell me exactly.

9 A Sure. I think for desktop and mobile web, you can
10 append ads.txt to the end of the URL. I believe in apps,
11 it's apps.ads.txt.

12 Q Thank you. Thank you. Right.

13 A Just to be specific.

14 Q So I want to show you an example of this. So at the
15 end of August, we typed this in onto a page for USA Today,
16 and I want to use this as a demonstrative and show it on the
17 screen. This would be Wolfe Demonstrative 1.

18 MR. TEITELBAUM: Your Honor, we have not seen
19 this.

20 MR. ISAACSON: Because it's cross-examination. We
21 don't disclose for cross-examination.

22 THE COURT: Yeah. But I thought the ground rule
23 was that demonstratives were being shared with each other.

24 MR. ISAACSON: No. The ground rules that were
25 agreed to was not for cross-examination.

1 THE COURT: Well, all right. Very quickly, you
2 have a hard copy of it. Show it to counsel. I want to see
3 a substantive objection.

4 MR. ISAACSON: It's in the binder.

5 THE COURT: What's the number?

6 MR. ISAACSON: 8/24. So I put these in here
7 chronologically by date because there are things that don't
8 have exhibit numbers, such as this. And so if you go to
9 August 24th, 2024, and it says on the tab usatoday.com
10 ads.txt. And there's an ads.txt file.

11 THE COURT: Hold on. Okay.

12 MR. TEITELBAUM: Your Honor, I see it appears to
13 be four-plus pages of code.

14 THE COURT: Yep.

15 MR. ISAACSON: It's not code; it's things that
16 come up, but he can answer questions about it if I show him
17 the demonstrative.

18 THE COURT: I'm going to allow it in, but I don't
19 want a whole lot of these issues coming up during the course
20 of the trial.

21 Go ahead. Ask the question.

22 MR. TEITELBAUM: For the sake of the record, Your
23 Honor, in as a demonstrative, not --

24 THE COURT: Only as a demonstrative. It's not
25 formally in evidence.

1 BY MR. ISAACSON:

2 Q All right. You've seen ads.txt files before, what
3 happens when you type them in?

4 A Yes.

5 Q All right. And so we typed this in on August 24th.

6 And do you recognize authorized sellers of ads on
7 usatoday.com on here, such as you'll see there's media.net,
8 moving down there's openx.com, pubmatic.com,
9 rubiconproject.com, triplelift.com, and I won't keep going.

10 But those are all examples of authorized sellers
11 on usatoday.com; correct?

12 A Correct.

13 Q All right. And so those are sellers of ads who are
14 working through Amazon's header bidding wrapper, Prebid's
15 header bidding wrapper, or perhaps Google's Open Bidding?

16 A Not all of them, but for the most part, yes.

17 Q And if -- as you said, if you type in a slightly
18 different -- if you type in ads.txt onto an app, you get a
19 similar file of authorized sellers of ads on your apps;
20 correct?

21 A I thought it was apps.txt -- ads.txt, but yeah.

22 Q And you would see a similar list --

23 A I believe so, yes.

24 Q -- of authorized sellers on your apps?

25 And you'll see a lot of the same names; correct?

1 A I mean, maybe. I mean, without seeing the list, yeah.

2 Q Well, I'm happy to show you an example of a list.

3 But do you not -- from your knowledge of who's
4 advertising on your websites and your apps, who are
5 providing demand sources such as OpenX, are they often both
6 on the website and on the apps?

7 A Yes.

8 Q All right. The -- now, prior to this unified auction
9 that we've been talking about, Gannett implemented client
10 site header bidding on or around 2015; does that sound
11 right?

12 A Sounds about right, yes.

13 Q Okay. And by client site header bidding, that's the
14 type of header bidding in which the ad requests are sent and
15 bids are evaluated on the USA network sites; correct?

16 A Correct.

17 Q Okay. Server-side header bidding, it happens on a
18 server?

19 A Correct.

20 Q And when -- with the header bidding, the code for the
21 header bidding also partially runs on a user's web browser;
22 correct?

23 A In the client's side, yes.

24 Q Yes. In the client's side.

25 Client's side, again, the client is you, USA

1 Today, the header bidding is running on the client?

2 A The client is the browser.

3 Q And the -- and by 2016, USA Today was using client-side
4 header bidding to integrate with Amazon; correct?

5 A I don't remember the specific dates that we implemented
6 any of them. But, yeah, around 2015 is when we launched
7 header bidding.

8 Q All right. And by around 2016, you had integrated with
9 Criteo using client-side header bidding?

10 A Potentially, yeah. I don't remember. Again, I don't
11 remember exactly which partner came at what specific time
12 period.

13 Q Do you recall that you used Criteo in connection with
14 client-side header bidding?

15 A Yes.

16 Q And did you use client-side header bidding in
17 connection with Rubicon?

18 A Yes.

19 Q In connection with PubMatic?

20 A Yes.

21 Q In connection with AOL?

22 A Yes.

23 Q With AppNexus?

24 A Yes.

25 Q With Index Exchange?

1 A Yes.

2 Q With Yieldbot; correct?

3 A Yieldbot, I don't remember specifically. I feel like
4 they were mobile app only maybe or mobile web only. That
5 could be different.

6 Q All right. And now in 20 -- around the middle of 2023,
7 Gannett began to use -- move towards its own internal
8 server-side header bidding; right?

9 A That's correct.

10 Q Okay. And so, right now, does Gannett operate both
11 client-side and server-side header bidding?

12 A Yes. We run a hybrid.

13 Q All right. And you're going to move entirely to
14 server-side header bidding at some point?

15 A It is dependent on the programmatic partner's ability
16 to have a server-side integration.

17 Q Is that programmatic partner Prebid?

18 A No.

19 Q Oh, I see.

20 But the server-side header bidding technology that
21 you're using is Prebid; correct?

22 A Yes.

23 Q And so Gannett is building, along with using Prebid
24 technology, its own unified auction and a server right now,
25 and it's hoping to move entirely to that or almost entirely

1 to that; is that correct?

2 A I think broadly aspirationally, yes, we want to move
3 everybody server side.

4 Q All right. The -- and when you talk about these
5 programmatic partners, all right, one of your goals is to
6 make them all compete by header bidding?

7 A Correct.

8 Q And that's competing on all of the impressions on the
9 USA Today network, both mobile and web?

10 A Yes. And just to clarify, to make them all compete via
11 header bidding. We just want them all to compete,
12 everybody, including Google, at the same time.

13 Q Yes.

14 A Yeah.

15 Q Right. Exactly.

16 So for all of the impressions on your network, all
17 these programmatic partners that you've been -- we've gone
18 over that are sources of demand that come to you through
19 Amazon and header bidding and Google ad tech, your goal is
20 to have them all compete for the impressions on the network?

21 A Correct.

22 Q And all of those programmatic partners that we've
23 listed, at least at some point have been competing against
24 each other and against Google for the impressions on the USA
25 network; right?

1 A From a programmatic perspective, yes.

2 Q Yes. Header bidding, just so we -- you said it's code
3 on the site.

4 What information -- consumer information is shared
5 when a -- there's a bid request or a query through header
6 bidding?

7 A That's a little more technical than I am. I don't know
8 all of the details. I mean, I know broadly speaking.

9 Q Please tell me broadly.

10 A Broadly speaking, we're sharing the specifics of where
11 the ad unit resides, what we have called is an SSTS, a
12 section, subsection, topic, subtopic hierarchy of our
13 content. That information is being passed for contextual
14 relevance.

15 Q Okay. And what about information about users,
16 consumers?

17 A I don't know specifically.

18 Q You're in charge of all the digital revenue for
19 Gannett; right?

20 A I'm responsible for the business side of it, yes.

21 Q And you don't know -- for example, when you make these
22 connections to programmatic partners or when you integrate
23 various header bidding technologies, you don't know what
24 user or consumer information you're sharing with the
25 programmatic partners?

1 MR. TEITELBAUM: Just renew my scope objection.

2 THE COURT: Well, more than that, the question has
3 been asked already, and more than that, he doesn't know.

4 Let's move on. I'll sustain the objection.

5 BY MR. ISAACSON:

6 Q Do you recall in 2017 there was an article in
7 Advertising Age where you were quoted as saying: "We are
8 entering a world where three major titans are going to be
9 competing for ad dollars"?

10 MR. TEITELBAUM: Objection. Hearsay. Improper
11 impeachment.

12 THE COURT: Let me hear the whole question first.
13 Go ahead.

14 MR. ISAACSON: I want to know if that's an
15 accurate quote.

16 He was describing on direct who -- the state of
17 competition, and I'm asking him about if he made a prior
18 statement about competition using these words and if the
19 quote is accurate. I'm not seeking to admit the article,
20 obviously.

21 THE COURT: All right. I'll overrule the
22 objection.

23 Go ahead.

24 THE WITNESS: I'm sorry. Can you repeat the
25 question?

1 BY MR. ISAACSON:

2 Q Sure.

3 In 2017 in an article in Advertising Age, you were
4 quoted as saying: "We are entering a world where three
5 major titans are going to be competing for ad dollars."

6 Do you remember making a statement to Advertising
7 Age or statements like that in 2017?

8 A Do you have a document or something you could share? I
9 don't have --

10 Q Yes. If you want -- want to help your recollection, if
11 you look in the binder, this is -- you have to look by the
12 chronology of tabs. This would be January 9th. 1/9/2017.
13 And this is an Advertising Age article. Which I'm not
14 seeking to move into evidence, but just to help you
15 remember. In the third paragraph, you will see they quote
16 you as saying: "We are entering a world where three major
17 titans are going to be competing for ad dollars."

18 Did you say that at that -- during that period of
19 time?

20 A To be honest, according to this document, I mean, the
21 words on the page imply that I did. I really don't remember
22 doing an interview with Ad Age.

23 THE COURT: He doesn't remember. Let's move on.

24 MR. ISAACSON: All right.

25 BY MR. ISAACSON:

1 Q Now, I think when we went through the demonstratives,
2 we saw at one point an app for the Staunton newspaper.

3 USA Today also has an app; right?

4 A Correct.

5 Q And many of those local newspapers have apps; correct?

6 A Correct.

7 Q Okay. Now, a couple types of ads I also want to ask
8 about.

9 Native ads are intended to look like the content
10 available on the platform; correct?

11 A By a broad definition, yes.

12 Q If I can show an example of this on the screen. It's
13 also in the binder. All right.

14 I would like to mark this as Wolfe
15 Demonstrative 2, and if you could just circle the native ads
16 on this screen.

17 A I think someone has just circled the whole -- well,
18 that's -- (Complies.)

19 Q All right. And then usatoday.com -- oh, by the way,
20 your apps also include native; right?

21 A Yeah. This is a combination of a relationship with
22 Taboola that is considered both what they consider to be
23 native advertising, as well as content recirculation.

24 Q Now, usatoday.com also shows video ads that play in the
25 website's video player before USA Today content starts

1 playing, and that's called instream video; right?

2 A Video pre-roll. Video pre-roll.

3 Q Video pre-roll. Okay. You call it video pre-roll.

4 THE COURT: I'm sorry, video what?

5 THE WITNESS: Pre-roll, P-R-E-R-O-L-L.

6 THE COURT: All right.

7 BY MR. ISAACSON:

8 Q All right. So if I can show you an example of that,
9 which would be Wolfe Exhibit 3, so now this is --

10 MR. ISAACSON: Don't play it yet. This is --
11 don't play it yet.

12 THE COURT: It hit the screen so -- yeah.

13 BY MR. ISAACSON:

14 Q That's a news video right there about Utah's famous
15 double arch collapses at national park. And so if I want to
16 click that and see the bridge collapse, and then I see this
17 ad.

18 (Audio played.)

19 BY MR. ISAACSON:

20 Q That's what we're talking about here is a pre-roll or
21 what I'm -- is a pre-roll ad, what I'm calling instream
22 video, it's an ad that you see before you see the news
23 story?

24 A Before you see the video content, correct.

25 Q All right. And the same types of ads also appear on

1 your apps; correct?

2 A Yes.

3 Q All right. And Counsel's showed you an example of
4 display ads. The display ads also appear on your apps;
5 correct?

6 A Yes.

7 Q You were asked about direct deals, and I think you
8 said -- well, first of all, direct deals you said involve
9 human beings. They can also be programmatic; can't they?

10 A So the difference between a direct deal and our -- can
11 they be -- you're talking about -- let me start over.

12 In a direct deal, there is a guarantee and a
13 minimum commitment to the publisher to deliver, and there
14 are human beings involved in establishing that relationship.

15 The concept of direct in the programmatic
16 environment is still a non-guaranteed -- I mean, minor
17 potential human, you know, everyone -- publisher gets
18 solicited for Private Auction or preferred deals. So there
19 may or may not be human interaction, but there's also no
20 guarantee of spend.

21 Q And in the programmatic world, you've heard the term
22 "direct deals"?

23 A Yes.

24 Q And so you said 25 to 40 percent, it fluctuates, of --
25 and I wasn't sure if it was revenue -- was it revenue?

1 A Impression utilization.

2 Q Impressions. Okay.

3 25 to 40 percent were indirect. That would mean
4 60 to 75 percent were direct?

5 A No. The reverse. 25 to 40 percent were direct; 60 or
6 so percent of our impression utilization is indirect,
7 programmatic.

8 Q I see. Okay. Thank you. All right.

9 The 25 to 40 percent that are direct, that -- does
10 that include programmatic direct?

11 A It does not, no.

12 Q Okay. So you put programmatic direct in the category
13 of indirect?

14 A A part of programmatic, correct.

15 Q Okay. And you said it fluctuates from year to year, 25
16 to 40 percent for the direct.

17 So fluctuate means that when the direct spend goes
18 up, the indirect spend goes down?

19 A Not necessarily. It's more just tied to seasonality,
20 impression utilization, whether we have a direct deal for
21 Super Bowl. So for us specifically, things like Ad Meter,
22 which we're very successful in selling directly.

23 Q But where you said 25 to 40 percent was direct and 60
24 to 75 percent was indirect, those numbers add up to
25 100 percent, and that's the total universe.

1 So if direct goes up by 15 percent, indirect, as
2 you've defined it, goes down by 15 percent?

3 A Sure. It's also relative to how many impressions go
4 unfilled completely.

5 Q All right. The -- you mentioned that Gannett has filed
6 a lawsuit.

7 Before the lawsuit was filed, you met with the
8 Department of Justice about Google and ad tech on a couple
9 of occasions; correct?

10 A Correct.

11 Q Okay. And after meeting with them, you filed a
12 lawsuit, and I think you said it makes substantially the
13 same allegations; correct?

14 A I did not say substantially. I don't know the
15 differences in the -- I'm not a lawyer. I don't know the
16 similarities or differences in the allegations.

17 Q Have you reviewed the complaint?

18 A Gannett's? No, not fully.

19 Q So you've partially reviewed the complaint?

20 A No. Just -- no. I haven't read it at all.

21 Q You've never seen it?

22 A I've seen articles about it. I haven't actually read
23 the actual complaint.

24 Q All right. And you are aware that Gannett is asking
25 for treble money damages if it wins its lawsuit, plus

1 interest and attorney's fees; correct?

2 A I don't know that.

3 Q Okay. Now, you are aware -- wait.

4 You're the head -- you're responsible for all
5 digital revenue, and you don't know --

6 THE COURT: That's been asked and answered. Just
7 ask the question.

8 MR. ISAACSON: Okay.

9 BY MR. ISAACSON:

10 Q Do you know whether Google -- whether Gannett is
11 planning to submit a damages calculation in this case -- in
12 their case?

13 A I have no idea.

14 MR. TEITELBAUM: Objection. Relevance.

15 THE COURT: Sustained. It's irrelevant.

16 BY MR. ISAACSON:

17 Q Do you have an understanding that Gannett believes that
18 this case today will be a very important factor in whether
19 it wins money in its own case?

20 MR. TEITELBAUM: Objection to form. Relevance.

21 THE COURT: Sustained.

22 You don't have to answer that question.

23 MR. ISAACSON: All right. Well, at risk of -- I
24 do want to show him one thing about this, Your Honor,
25 because I do think it goes to bias, so I'm going to show him

1 the statement of Gannett.

2 THE COURT: I'm going to sustain the objection
3 before I even hear it. Let's move this along.

4 MR. ISAACSON: All right. Well, you won't -- I
5 don't need to move it along. I've got no further questions.

6 THE COURT: All right. Is there any redirect?

7 MR. TEITELBAUM: Just briefly, Your Honor.

8 THE COURT: All right.

9 MR. TEITELBAUM: And, actually, I'd like to start
10 with the Court's indulgence with the native ad demonstrative
11 that Google displayed, which we do not have access to
12 because it was not provided to us in advance.

13 THE COURT: All right. Is somebody putting it up?

14 REDIRECT EXAMINATION

15 BY MR. TEITELBAUM:

16 Q So, Mr. Wolfe, you were asked some questions on
17 cross-examination about those native ads there at the
18 bottom.

19 Do you see those?

20 A I do, yes.

21 Q And you see that label at the top left that says
22 Taboola feed?

23 A Correct.

24 Q Taboola feed -- Taboola is a separate ad tech product;
25 right?

1 A Correct.

2 Q Different from Google?

3 A Yes.

4 MR. TEITELBAUM: Okay. We can take that down.

5 Thank you.

6 BY MR. TEITELBAUM:

7 Q You were asked a few questions about mobile apps.

8 Are you familiar with a term called the ad map?

9 A Yes.

10 Q Can you tell the Court what the ad map is, please.

11 A Sure. I don't know if you want to pull up one of ours.

12 I think it was Number 2.

13 MR. TEITELBAUM: Yeah. If we could pull up

14 Plaintiffs' Demonstrative C, please.

15 THE WITNESS: The easiest way to explain this is,

16 I think hopefully in a very commonsensical sort of way,

17 which is consuming a web page on a laptop or on a desktop

18 type of environment, there's a much larger canvas. The word

19 ad map ultimately outlines and describes fundamentally where

20 we, as the publisher, want the ads to appear, again, above,

21 alongside, or in between the content that we offer.

22 And the example here -- obviously, again, the

23 canvas is different. Many of the ads are simply going to

24 appear between articles. Or, sorry, I should say between

25 paragraphs on the page, as opposed to the desktop

1 environment where the ad map might be a bit more robust with
2 more ads on its pages.

3 Q You were also asked some questions on cross about the
4 technology that's used for web pages on a desktop computer
5 versus a mobile app environment.

6 Are you familiar with something called an SDK?

7 A Yes.

8 Q Could you explain to the Court what an SDK is.

9 A It's a standard display kit. It's also part of the
10 technology alongside the ad server that facilitates the
11 delivery and rendering of ad impressions.

12 Q And is it sometimes also called a Software Development
13 Kit?

14 A Yeah. Software Development. Yeah.

15 Q Does an SDK play any role in selling display
16 advertisement on a desktop or laptop computer or web page?

17 A No.

18 Q What about with respect to mobile apps?

19 A Apps, yes.

20 Q You were asked a few questions on cross-examination
21 about header bidding.

22 And what effect, if any, did header bidding -- the
23 adoption of header bidding have on Gannett's display
24 advertising revenue?

25 A Well, I think I previously stated that we think we

1 saw -- or I know we saw -- you know, depending on the
2 period, there was a 15 to 20 percent bump in our overall
3 programmatic effective CPMs.

4 Q And in contrast to header bidding, we also talked about
5 Gannett's use of Google Ad Manager and AdX. And you were
6 asked some questions about that on cross; do you recall
7 that?

8 A Yes.

9 Q And could you explain, given that as you were asked on
10 cross, you work with all these different demand partners,
11 why is it that Gannett can't switch away from using Google's
12 ad exchange as one of those?

13 A Well, I think I've also previously mentioned that
14 Google represents about 50 percent of the programmatic
15 revenue that Gannett generates. And, more specifically,
16 like, the ad exchange and specifically ad words, right or
17 wrong, the demand source that exists there seems to find its
18 way, and, like monetizing many of our local properties, is
19 successful in doing so.

20 Q So based on your work at Gannett, is there any other
21 way for Gannett to access the Google ad words or Google Ads
22 demand other than through AdX?

23 A I don't believe so, no.

24 MR. TEITELBAUM: No further questions on redirect.

25 Thank you, Your Honor.

1 THE COURT: Any recross?

2 RECROSS EXAMINATION

3 BY MR. ISAACSON:

4 Q When you said 50 percent of your programmatic revenue
5 comes from Google, are you including DV360?

6 A I'm including the Google ad exchange as a demand
7 source. It's around 50 percent. Yeah.

8 Q So Google's AdX is what you're talking about, not
9 Google Ads?

10 A Correct.

11 Q Okay.

12 MR. TEITELBAUM: Your Honor, with the Court's
13 permission, I do think I need to clarify just one thing.

14 THE COURT: No. No. No. That's it.

15 All right. Is anybody going to call this witness
16 again during the course of the trial?

17 MR. TEITELBAUM: Not from the plaintiffs.

18 MR. ISAACSON: No, Your Honor.

19 THE COURT: Sir, you're excused as a witness.

20 That means you may now stay and watch the proceedings if you
21 want to. You're not to discuss your testimony or anything
22 you see or hear in court with any witness who has not yet
23 testified.

24 THE WITNESS: Understood.

25 THE COURT: We've got your badge back from you?

1 THE WITNESS: Yes.

2 THE COURT: Very good.

3 (Witness excused at 11:42 a.m.)

4 THE COURT: Call your next witness.

5 MS. WOOD: Plaintiffs call Andrew Casale.

6 THE DEPUTY CLERK: Can you raise your right hand.

7 Thereupon,

8 ANDREW CASALE,

9 having been called as a witness on behalf of the plaintiffs
10 and having been first duly sworn by the Deputy Clerk, was
11 examined and testified as follows:

12 (Time noted: 11:42 a.m.)

13 THE DEPUTY CLERK: Thank you.

14 DIRECT EXAMINATION

15 BY MS. WOOD:

16 Q Good morning, Mr. Casale.

17 Can you please tell the Court where you are
18 currently employed.

19 A Index Exchange.

20 Q And what is your position at Index Exchange?

21 A President and CEO.

22 Q How long have you been president and CEO of Index
23 Exchange?

24 A Just under ten years. Since January of 2015.

25 Q And can you describe to the Court, what is the business

1 of Index Exchange?

2 A We are an advertising exchange in the programmatic
3 market.

4 Q And what is an advertising exchange?

5 A Our role is to represent publishers, so otherwise known
6 as media companies, companies like the New York Times, The
7 Washington Post and many other publishers all over the
8 world. We represent their advertising impressions across
9 the open web in app and instreaming television. And our job
10 is to, much like a stock market, make their impressions
11 available to marketers who place bids on the exchange.

12 Q And I'm going to go through some of the terminology you
13 just used.

14 You referred to a programmatic market. What is
15 that?

16 A Programmatic is an overarching bucket for the category
17 of company that I'm within, as well as the philosophical
18 twin of index, being the demand-side platform, which
19 represents the interests of marketers. So we all form the
20 programmatic industry or ecosystem.

21 Q And what do you mean by programmatic in that context?

22 A Programmatic is the automation of digital media, and
23 specifically the buying and selling of digital media. It
24 allows marketers to bring data to their buying decisions and
25 do so through platforms instead of through manual

1 conventional purchasing work flows.

2 Q What's an example of a manual traditional work flow?

3 A So the era before programmatic was largely bought and
4 sold manually with sales teams who would sell contracts to
5 marketers, we call them insertion orders. So the buying and
6 selling of media in that work flow is much more cumbersome,
7 it's much longer.

8 In programmatic, we have platforms and tools that
9 marketers can use directly. They can log in and access
10 media quickly. You can kind of look at it as almost like
11 E-Trade, if you understand E-Trade from a financial
12 perspective that buy and sell stocks, only in the
13 advertising arena.

14 Q You also referred to marketers.

15 Is that just another term for advertisers?

16 A Yes.

17 Q Okay. I want to talk briefly about your background
18 before Index Exchange.

19 Can you just describe at a high level what your
20 professional experiences were before you created Index
21 Exchange?

22 A Yeah. I have a unique story in that I fell into the
23 business that I'm in today in forming the company that we
24 are approximately 20 years ago. I refer to that as the
25 young Andrew era. But you can imagine that I was a whiz kid

1 type on the Internet. I found the Internet very early when
2 I was 10, 11, 12. I made websites on the early Internet,
3 and, over time, those websites got pretty popular. And the
4 early ad technology ecosystem actually found me because some
5 of those websites were very popular and offered to place ads
6 on those websites.

7 Q What do you mean when you said the ad technology found
8 you?

9 A Yeah. Much like today, index employee salespeople,
10 there was an ad tech market in the late '90s that also
11 employed salespeople, and so some of those salespeople
12 contacted me because my websites were pretty popular and
13 offered to place advertising on those websites. And that's
14 how I came to learn about ad tech, the advertising
15 marketplace, and then eventually founding the company that
16 we are today.

17 Q And did your company previously operate under a
18 different name other than Index Exchange?

19 A We founded the company as Casale Media.

20 Q And what was Casale Media?

21 A Casale Media was an ad network.

22 Q Okay. And what is the difference, if any, between an
23 ad network and an ad exchange?

24 A An ad network typically represents both the interests
25 of the publisher or media, as well as the interests of the

1 marketer or the advertiser. So you can kind of look at it
2 as both buying and selling media simultaneously. Whereas an
3 ad exchange, like Index or an SSP like Index, represents the
4 sell-side, so we represent strictly the publisher in the
5 transaction. And so ad networks are also known for
6 typically taking higher margins in the media transaction and
7 also having the opportunity to facilitate arbitrage, which
8 can help increase the ad network's margin.

9 Q Can you explain what you mean by arbitrage in that
10 context?

11 A So an ad network will typically purchase a media
12 impression and then effectively resell it to the marketer at
13 a different price, or they would have the opportunity to
14 resell it to the marketer at a different price or do so on a
15 different basis of sale.

16 So, for instance, an ad network might buy 1,000
17 advertising impressions on a website for a set price and
18 then sell media to a marketer on an outcome basis. So maybe
19 they're selling a click or they're selling a sale after an
20 exposure of an ad. So what happens in between is
21 effectively a mode of arbitrage.

22 Q Put another way, would that be the incentive of the ad
23 network to buy low and sell high?

24 A Effectively that is the characterization of the ad
25 network model widely accepted, including by me.

1 Q How, if at all, does that compare to the business model
2 of an ad exchange? Are you also incented to buy low and
3 sell high?

4 A No. For us at Index, our entire business's purpose is
5 to try to drive publisher yield up, because we effectively
6 share the same outcome with our publishers. As an
7 advertising exchange, we're compensated on a percentage of
8 media basis, otherwise known as a take rate. So if we're
9 able to push prices up, if we're able to push what we call
10 yield up for the publisher, the publisher does better, but
11 so do we. So we're very much aligned with the publisher's
12 interest in the business model at Index as an ad exchange.

13 Q Now, when did Index first launch its exchange business?

14 A We launched the exchange business in June of 2011.

15 Q And in what countries does Index Exchange operate
16 today?

17 A We are a global platform, and so we represent all of
18 our publishers' media opportunities. So if our publishers
19 are domiciled in the United States, they might still have
20 impressions in the UK or Australia. So we don't really view
21 us as having any regional limits on the platform.

22 That said, we also have offices all over the
23 world. So we have offices in Canada, the UK, France,
24 Germany, Australia, Japan, Singapore. I might be forgetting
25 about one or two.

1 Q Okay. I want to turn now -- you used a term a few
2 minutes ago "open web."

3 What does that term mean to you in the context of
4 digital advertising and the markets for ad tech tools?

5 A So the great thing about the Internet is, to a large
6 extent, it is open. We can search for content, we can type
7 a website into a web browser and freely -- generally
8 speaking, freely access the website and the contents
9 available.

10 The thing is, those publishers, those website
11 owners ultimately have costs to bear for the content that
12 they're providing. And there's a value exchange on the open
13 web, which is the ads pay the bills. Even when I was, you
14 know, young Andrew 20-ish years ago building websites, you
15 know, at first it was a hobby business, but then eventually
16 the ads paid my bills, too, and I was able to scale those
17 websites.

18 So there's effectively a value exchange on the
19 open web where consumers have come accustomed to having free
20 and open access to websites and content, but there's
21 generally ads alongside that content which pay those
22 publishers.

23 Q Now, are you familiar with the term "display ad" as it
24 relates to digital advertising?

25 A Yes.

1 Q What is a display ad?

2 A A display is an overarching category that typically
3 refers to the banner ad. And so the banner ad is what you
4 would typically see on a website. So imagine opening up the
5 New York Times, and you'll see an ad maybe at the top of the
6 page, inside of the content you might see a rectangle.

7 Those are banner ads, and those are typically also
8 considered display advertising as a generalized category.

9 Q Now, are these terms, "open web" and "display ads," are
10 those terms that are commonly used based on your experience
11 in the industry?

12 A Yes.

13 Q I want to talk now about how open-web display ads may
14 or may not be different from other types of display ads.

15 In your experience, how, if at all, is the market
16 for display ads on the open web different from the market
17 for display ads on social media platforms like Facebook, for
18 example?

19 A Definitely. So the -- there's quite a few differences.
20 When you think of social media platforms, for starters, they
21 tend to be a little less open, as in a consumer will
22 generally have to, for the most part -- and this might not
23 be all the time -- will have to log into the social
24 platform. So already it's not so open in that you can't
25 just type in a website and view content. You're logging in,

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1 you have to already be a member, that sort of thing.

2 On the open web, we have a lot of standards that
3 associations that help create with companies like ours and
4 everybody else in the ecosystem. One of those associations
5 is the IAB.

6 Q Let me pause you there. Sorry to interrupt.

7 But when you say the open web has more standards,
8 what are you referring to? Who has these standards, and who
9 uses them?

10 A So when you think of a banner on the open web, for
11 instance, it's generally created in a designated size or
12 within a height. That's actually a standard of ours in our
13 ecosystem that is owned by an association like the IAB. And
14 that allows for an efficient scalable business to take place
15 where it's commonly understood and accepted that a banner,
16 like a rectangle, for instance, will have the same
17 dimensions on one side or another, for the most part, which
18 allows the advertiser community also to get more bang for
19 their buck when they're creating creative assets, for
20 instance, because they know that they'll work all across the
21 open web instead of on one specific publisher. That's just
22 one example of a standard, though.

23 There are also standards that govern the auction
24 itself. Something that we call a bid request and a bid
25 response are tailored to an industry standard that we call

1 open RTB, which is a widely-accepted standard between
2 exchanges and DSPs. There are other standards as well for
3 things like header bidding that are held by organizations
4 like Prebid.

5 So the open web has all these standards at play
6 which allow companies to do business at great scale where
7 we're not all creating proprietary value or reinventing
8 technologies, but we can integrate and interface with each
9 other, which is very, very efficient.

10 So to contrast that into social media, in social
11 media, these standards are not always in place or are in
12 some cases not in place at all. In social media, the
13 creative unit ad types are also generally proprietary to the
14 social media platforms. They might use an industry
15 standard, but for the most part, they do not, they have
16 their own proprietary, you know, ad display and ad markup.

17 For the most part, social media platforms are what
18 we call walled gardens, which is they're effectively walled
19 off. So not only does the consumer have to log into them,
20 but companies like ours and the ecosystem of vendors that
21 help support the open web can't actually participate in
22 social media opportunities. So, for instance, a company
23 like Facebook would not work with a company like Index.
24 Instead, they have their own ad platforms that they've
25 created that they use for modernization.

1 Q Can you just take a beat and explain that for me.

2 Why is it that Index can't work with the Facebook
3 tools that are offered by Facebook for display ads?

4 A I think it's a strategic decision on Facebook's part
5 not to allow what would be referred to as a third-party
6 advertising technology platform to have access to Facebook
7 media. And so that's a business decision that they've made.

8 Q Now, we've talked about the differences in the markets
9 for open-web display and social media. I want to talk now
10 about open-web display versus mobile apps.

11 In your experience, how are those two markets the
12 same or different?

13 A So in the mobile app ecosystem, I'd say the biggest
14 difference is the ad serving environment is quite different.
15 On the open web for display, we have one dominant -- I
16 shouldn't say dominant. We have one primary ad server that
17 publishers use globally, and that was formerly GAM, it is --
18 I should say it was formerly DFP, it is now known as GAM.
19 So, for the most part, publishers on the open-web display
20 use that same ad server and are very consistent. In app,
21 it's a very different environment where there are multiple
22 what we call SDKs, or Software Development Kits, which are
23 kind of like ad servers.

24 But as a result, every app developer is generally
25 using -- not generally using, but it tends to use different

1 solutions. So they might be using a company like AppLovin,
2 a company like ironSource, even a company like Google has an
3 STK called AdMob. But there's a variety of different STKs
4 in the app environment. So that's one fundamental
5 difference.

6 The other fundamental difference in app is,
7 similar to social media, there is less commonly-scaled usage
8 of standardized ads. They are available. But for the most
9 part, a lot of app developers do have their own standardized
10 units. Things like rewarded video, interstitials, embedded
11 native. It tends to be more common in the app ecosystem.

12 Q Now, are you familiar with something referred to as
13 instream video ads?

14 A Yes.

15 Q What is that?

16 A Instream video ads are -- you can think of them as
17 something like a commercial break in television. So you're
18 streaming content, in the middle of the stream, an ad break
19 appears. And in instream advertising, you're typically
20 seeing a video ad. So it could be a 15-second ad, a
21 30-second ad, a 45-second ad, which would be sight, sound
22 and motion.

23 Q And, in your experience, how, if at all, is the market
24 for display ads on the open web different from the market
25 for instream video ads?

1 A Similar to app in the sense that there are more ad
2 servers that publishers tend to use, FreeWheel tends to be a
3 commonly used ad server in the industry market. In
4 addition, you know, Google also with GAM is a commonly used
5 ad server instream. There are companies like Publica and
6 SpringServe as well. So, again, tends to see -- we tend to
7 see more variety of publisher ad server in instream.

8 But fundamentally, video ads are different from
9 display ads. Video ads are high impact; sight, sound and
10 motion. Display ads are, you know, typically banners on
11 websites, animated, but not necessarily audio available,
12 that sort of thing.

13 Q And how, if at all, does the pricing for open-web
14 display ad compare to pricing for instream video ads?

15 A Instream video ads are priced at a significant CPM
16 premium generally to display ads and banner ads. You know,
17 a banner ad might sell for one to two CPM. It can sell
18 obviously for more or less. Whereas an instream video ad
19 might sell for 20 CPM to 30 CPM. Again, it might sell for
20 more or less, but there tends to be a pretty significant
21 delta in CPM. CPM is the valuation metric that is used for
22 valuing impressions. It refers to cost per 1,000.

23 Q Okay. I'd like to talk a little bit more about some of
24 our terminology.

25 MS. WOOD: And I'll ask if we could put on for

1 display with the Court's permission, Demonstrative A. It's
2 been shown to and agreed to. It's one of the demonstratives
3 we used in the opening.

4 BY MS. WOOD:

5 Q Here, I understand this may or may not be simplified.

6 But, generally speaking, can you tell us, are you
7 familiar with the term "publisher ad server"?

8 A Yes.

9 Q What is a publisher ad server?

10 A A publisher ad server is -- you know, it's a platform
11 that publishers use to effectively run their ads businesses.
12 And a publisher ad server will have certain features and
13 functionality that allow them to do that. It will act as
14 something of an order book generally which stores what we
15 call line items, which are --

16 (Reporter interrupted for clarification.)

17 THE WITNESS: Line items.

18 BY MS. WOOD:

19 Q If you could slow down just a little bit, Mr. Casale.

20 A So it's an order book, effectively. It's one of its
21 primary tasks.

22 Ad servers also have lots of billing and
23 reconciliation responsibilities, so they tend to be, you
24 know, what cuts invoices and how publishers run that side of
25 their businesses, and ad servers have, you know, hundreds or

1 dozens or thousands of features as well that allow
2 publishers to run their businesses. They act as a central
3 fixture for the publisher.

4 Q And how, if at all, are publisher ad servers involved
5 in direct sold ads, if you know?

6 A So in direct sold ads, the -- that order book function
7 that I articulated is very important, it's how direct sold
8 ads are prioritized, it's how they're paced. So a publisher
9 might sell a million dollar campaign over a month, the ad
10 server will be responsible for pacing it adequately over
11 that period of time. That sort of thing.

12 Q And how, if at all, are publisher ad servers involved
13 in the programmatic transactions of open-web display ads?

14 A So publisher ad servers can also have ad exchanges as
15 part of them where they are both facilitating that order
16 book function for direct transactions, but also effectively
17 acting as competitors to companies like Index.

18 The ad server ultimately also is responsible for
19 final decisioning and render of ad. So regardless of who
20 the ad has been purchased by, whether it was sold directly,
21 whether it was sold programmatically by an exchange
22 capability that the ad server has, whether it was sold by a
23 company like Index, the ad server is also generally
24 responsible for rendering what ultimately happens on the
25 website or app.

1 Q You indicated that the publisher ad server makes the
2 final decision about what ad to serve.

3 Can you explain how that works?

4 A Yes. There's a -- there is a real-time decision that
5 has to be made very, very quickly when a website is loading,
6 when an app is rendering, when a video is running. We say
7 that this happens typically in the blink of an eye. But as
8 you can imagine, if you open again the New York Times and
9 that banner at the top is attempting to load, a decision has
10 to be made very quickly as to what advertiser will buy that
11 slot, and the decision is made by the ad server, and the ad
12 server's decision is made by everything that is effectively
13 in its order book or its line items, whether it be demand
14 that has been sold directly or whether it's demand that has
15 been on programmatically. Those decisions are all made
16 instantaneously.

17 Q Now, does the defendant, Google, to your knowledge,
18 operate a publisher ad server?

19 A Yes.

20 Q And what is Google's publisher ad server called today?

21 A Google Ad Manager again.

22 Q And Google Ad Manager combines two different
23 technologies; is that right?

24 A I will -- the marketing terminology with Google can be
25 a bit funny. But, as far as I know, GAM also includes AdX,

1 but I don't entirely know how the acronyms work.

2 Q Putting aside the branding, was there a common term
3 before GAM that people in the industry used to refer to
4 Google's publisher ad server?

5 A Yes.

6 Q What was the term people in the industry used to refer
7 to Google's publisher ad server?

8 A DFP.

9 Q Do you know what DFP stood for?

10 A DoubleClick for Publishers.

11 Q And what was DoubleClick?

12 A DoubleClick was an ad server.

13 Q And was DoubleClick sold?

14 A Yes.

15 Q And who was DoubleClick sold to?

16 A Google.

17 Q So if I refer to the publisher ad server run by the
18 defendant as DFP, will you understand what I'm referring to?

19 A Yes.

20 Q Okay. Do you compete with DFP as an Index Exchange?

21 A We do not have an ad serving product at Index. So, no,
22 we do not compete with DFP.

23 Q Do you view yourself to be in the same product market
24 as DFP?

25 A Where we would see ourselves in the same product market

1 is the general modernization of publishers, but the direct
2 line of competitive business we would look at would
3 generally be the AdX side of DFP, the exchange side of DFP,
4 not the ad serving side of DFP.

5 Q You offered the same functionality as DFP?

6 A We are not an ad server.

7 Q Approximately what percentage of open-web display
8 impressions that come through Index's exchange auction
9 process come from Google's publisher ad server, DFP?

10 A Across our top 100 global publisher customers,
11 83 percent of impressions route through GAM and DFP.

12 Q 83 percent of your impressions come from that one
13 source, DFP?

14 A Uh-huh.

15 Q By contrast, what would you estimate the next largest
16 competitor in the publisher ad server market to be based on
17 Index's open-web display transactions?

18 A The next closest would be Xandr's ad server.

19 Q Approximately what percentage of impressions --
20 open-web display impressions coming through Index come from
21 the publisher ad server Xandr?

22 A It's a single-digit percentage.

23 Q In your experience in this industry, how common is it
24 for a publisher to develop and run its own in-house
25 publisher ad server?

1 A It's not common.

2 Q Why is that, if you know?

3 MR. ISAACSON: Objection. Foundation.

4 MS. WOOD: I could lay a foundation.

5 THE COURT: Lay a foundation. Sustained.

6 BY MS. WOOD:

7 Q Mr. Casale, how long have you been in this industry?

8 A Over 20 years.

9 Q And are you familiar with the products and how they
10 function across the tools that are seen in Plaintiffs'

11 Demonstrative A?

12 A Yes, very.

13 Q And are you generally familiar with how these products
14 are built and run?

15 A Yes.

16 MS. WOOD: Your Honor, I would ask the question
17 based on that foundation, and I believe the witness can
18 testify as to what is required to build and run a publisher
19 ad server.

20 MR. ISAACSON: That's a different question. I
21 have no objection to that question. The previous question
22 was about what publishers are thinking, so ...

23 THE COURT: Go ahead. Repeat the question so the
24 witness understands.

25 MS. WOOD: Yes.

1 BY MS. WOOD:

2 Q Mr. Casale, can you please explain what is required,
3 based on your experience, to build and run a publisher ad
4 server, whether by a new company or by a publisher?

5 A Yeah. I'd say the endeavor would be very complex and
6 expensive. But, for starters, you would need to be a
7 technology company or technology-minded company, because a
8 publisher ad server is a platform with a lot of software
9 engineering behind it. There are many features and
10 functions that are required to facilitate the act of both,
11 you know, organizing that order book, as I articulated,
12 billing and reconciliation, as well as the act of ad render.
13 So you would need to be capable of first building that
14 platform and all of the features and functions of it.

15 Ad servers are also responsible for handling the
16 scale of media, and so you would need that ad server to be
17 capable of having the infrastructure required to handle, you
18 know, whatever publisher's scale was going to be using it,
19 whether it was a small publisher or a potentially very large
20 publisher with billions or tens of billions of impressions.
21 Obviously every publisher has a different volume.

22 So I would say it would be a very technically
23 complex endeavor, it would be an expensive endeavor because
24 of the infrastructure required to process it as well. Those
25 would be some of the basics.

1 Q Now, in your experience in the industry, how common is
2 it for a publisher to switch from one publisher ad server to
3 another?

4 A These days it's not common at all.

5 Q And are you aware as you sit here now of any US
6 publishers switching away from Google's DFP publisher ad
7 server to another publisher ad server?

8 A I can't recall any recent example of that.

9 Q And do you have an understanding, based on your
10 experience in the industry, of why it is so rare for a
11 publisher to switch their publisher ad server?

12 A The publisher ad server I look at effectively as
13 somewhat of a utility, which is once it's been established
14 as the publisher's ad server, they are effectively running
15 their business on top of it. Their billing is linked into
16 it, all of their campaigns and line items are run on top of
17 it, it is embedded into their website or many websites if
18 they have a big portfolio, into their apps, potentially into
19 their video assets. It's a very technically-integrated
20 asset as well. So by extension of that, it would be a very
21 onerous effort to attempt to switch.

22 Q Now, in your experience in the industry, how common is
23 it for a publisher to utilize more than one publisher ad
24 server at a time? In other words, to multi-home, as I think
25 it may be called.

1 A That's not a common strategy that I see publishers
2 employ.

3 Q And do you have an understanding as to why that is?

4 A As that utility function, as soon as you undermine its
5 access or autonomy over the decision of what ad to render at
6 that moment in time on a website or in an app, I think
7 you're potentially going to create a very confusing
8 business, as in if one ad server is rendering one ad and one
9 other server is running another ad, I don't know how you
10 would really manage that business.

11 Q I want to talk now about the block on the right-hand
12 side that's in red, the advertiser ad network block.

13 Do you see that there on Plaintiffs'
14 Demonstrative A?

15 A Yes.

16 Q And is that the type of ad network that Casale Media
17 used to be?

18 A We were an ad network. I don't think I would -- I
19 would be able to compare ourselves to an ad network as
20 substantial as the Google ad's ad network. But we were an
21 ad network, absolutely.

22 Q Okay. And can you describe for the Court just at a
23 high level, what is an advertiser ad network, and how does
24 it fit in into the overall open-web display ad transaction
25 process?

1 A Yeah. An advertising -- I should say an ad network
2 is -- is generally looked at as an additional source of
3 demand to publishers that can complement the programmatic
4 marketplace, you know, the DSPs that are also placing bids
5 in the market.

6 An ad network typically has a unique value
7 proposition to its advertisers or marketers, whether it be
8 data or optimization or what have you. And an ad network is
9 effectively taking a fee for the transaction, where
10 typically an ad network will purchase media at one price and
11 sell media at a different price. And in some cases, and in
12 many cases actually, it will sell media on a different
13 business model entirely.

14 So, for instance, an advertiser might use an ad
15 network to buy clicks because buying impressions is
16 complicated. So if an advertiser just wants to drive clicks
17 to their website, they might use an ad network to do that.

18 Q So just for purposes of the record, what does it mean
19 to purchase a click?

20 A So, you know, if you think back to the New York Times
21 website, display at the top, if you see that display ad as a
22 consumer, that is an impression. That impression is a
23 billable event. If you click on that ad and go to that
24 advertiser's website, that's what we consider to be a click,
25 which is another way you can bill for advertising.

1 Q Now, to the best of your understanding, what entity
2 operates the largest advertiser ad network for open-web
3 display?

4 A As far as I know, GDN, the Google Display Network,
5 which is now referred to as Google Ads is the largest ad
6 network in the world.

7 Q And as an Index Exchange, do you view yourself as
8 competing in the same marketplace against Google Ads?

9 A We do not view ad networks as competitive to Index. We
10 view them as a demand source into our marketplace.

11 Q And why don't you view them as competitors or in the
12 same market as the one you're in?

13 A Index does not service the buy-side directly. So, you
14 know, we say in market we cannot take a dollar from a
15 marketer or an advertiser. In order for money to come into
16 Index, it has to come through a platform, whether that
17 platform be an ad network or a DSP.

18 Q Now, in your experience, how would you characterize
19 Google Ads as a source of demand or advertisers in the
20 market for open-web display ads?

21 A It's a very large source of demand.

22 Q And can that source of demand be found in other places
23 if Google Ads were, for some reason, not available?

24 A It would require another alternative ad network that
25 assumed the same position in the market. But what's unique

1 about Google Ads or the GDN demand source is the makeup of
2 it, which, as I understand it, tends to be SMBs, many small
3 and medium size businesses, I'm sure large marketers use it
4 as well. But it has many, many, many advertisers behind it.
5 I don't know if it's hundreds of thousands or millions, but
6 it's a very large number, which makes it a very unique
7 demand source, because, in our business, we have a very
8 seasonal cyclical nature in the advertising business where
9 there are high and low periods of demand, and so that --
10 that's very different from an ad network that has many, many
11 advertisers that potentially can have a very steady source
12 of demand, which is typically how we've looked at Google Ads
13 or GDN.

14 Q And what is it about SMBs or small or medium size
15 businesses that make that an important source of advertising
16 demand for exchanges and publishers ultimately?

17 A Publishers ultimately want to drive the highest cost
18 they can for their media because that's how they fund their
19 content. And so we want and they want as wide a variety of
20 advertisers purchasing their media as possible to drive as
21 much demand and as much pricing pressure for all their
22 opportunities.

23 Q I want to look now at the box directly below that, the
24 box that's labeled demand-side platform with DV360 under it.

25 Do you see that in Plaintiffs' Demonstrative A?

1 A Yes.

2 Q What is demand-side platform, as that term is used in
3 association with open-web display ads?

4 A We typically look at a demand-side platform as our
5 philosophical twin on the buy-side of the market where we
6 represent as an ad exchange or as an SSP the interests of
7 the publisher, the website and app developer.

8 The demand-side platform represents the interests
9 of the advertiser or the marketer where we're making an
10 opportunity available for purchase. A demand-side platform
11 is placing the bid.

12 So, you know, you can look at it as if a website
13 was opening and we have an opportunity on, say, the New York
14 Times for a banner ad, we would send that to a demand side
15 platform by way of what we call a bid request. The
16 demand-side platform would then have the opportunity to
17 place what we call a bid response on behalf of an
18 advertiser. So imagine it would be McDonald's or Coca-Cola,
19 that sort of thing.

20 Q Now, do you view demand-side platforms to be one of
21 your competitors?

22 A No. We view demand-side platforms as customers and as
23 partners to the exchange.

24 Q And to the best of your understanding, what entity
25 operates the largest demand-side platform for open-web

1 display?

2 A Based on the market today, I would say that that's
3 potentially a coin flip between two companies, either Google
4 with DV3 or The Trade Desk. I think, you know, who's the
5 largest depends on the day and that sort of thing, but
6 they're both the largest demand-side platforms in the
7 market.

8 Q And what percentage of impressions won by Index
9 Exchange originate with either one of these buy-side tools
10 Google operates, either Google ads or DV360?

11 A Based on the most recent data that I'm aware of, I
12 would say that Google Ads is estimated to be about
13 10 percent of what we see today, and DV3 is about
14 28 percent.

15 Q Okay. Now, turning to that red -- the yellow box with
16 the red outline in the middle, ad exchanges, you've already
17 told us what an ad exchange is, but do you have an
18 understanding as to what the largest ad exchange in the
19 market for open-web display is, based on your experience?

20 A Based on my experience, the largest ad exchange would
21 be AdX.

22 Q And that's Google's ad exchange?

23 A That's correct.

24 Q And how would you characterize the size of AdX as a
25 competitor in the ad exchange market for open-web display

1 transactions?

2 A As far as I know, they are the largest. The challenge
3 that we have in our ecosystem is it's hard to measure
4 exactly the share that anyone has, but they're certainly
5 substantially larger than Index.

6 Q Now, the Court has heard some suggestion that all of
7 these tools all together combine to make one market.

8 Would you agree that all of these tools are one
9 market, or do you see these as individual separate markets?

10 A I view these as separate businesses and separate
11 platforms, in my view.

12 Q Why do you say that?

13 A Because companies can compete with any of them, and the
14 companies that typically would compete with any of them
15 rarely would have all of them. Much like Index, it simply
16 has an exchange, and so we only compete in one of these four
17 squares.

18 Q So talking about the ad exchange, is that where you
19 believe you compete directly with Google?

20 A Yes.

21 Q And can you describe what is the size of Index as an ad
22 exchange compared to that of Google's AdX?

23 A Like, we don't have a formal entity that grades the
24 market share of the exchange, and so the only way that I
25 would gauge that is through conversations with publishers.

1 I would estimate our share --

2 MR. ISAACSON: I would object to hearsay, Your
3 Honor.

4 THE COURT: I'll sustain that objection.

5 BY MS. WOOD:

6 Q Without referencing any conversations with publishers,
7 do you, yourself, have an understanding as to how much share
8 of publisher wallet Index has versus AdX has?

9 MR. ISAACSON: I would object. There's no
10 foundation for this. He just said --

11 THE COURT: I'm going to sustain the objection.

12 MS. WOOD: Okay.

13 BY MS. WOOD:

14 Q After AdX, what is the next largest exchange that
15 transacts open-web display transaction?

16 A I would guess that it would be one of a few.

17 MR. ISAACSON: I would object to guessing.

18 THE COURT: Sustained.

19 BY MS. WOOD:

20 Q Can you describe in your own words to the Court, what
21 is it like to compete against Google's AdX in the market for
22 ad exchanges for open-web display transactions?

23 A It's very challenging. And there's one good example
24 that I would cite, which is we don't have the same access to
25 publisher opportunities in every case. I would cite

1 programmatic guaranteed as one example, where, for years, we
2 have wanted to offer programmatic guaranteed capabilities,
3 which we cannot offer, so they're only available through
4 Google's products. And that's challenging because, to us,
5 it makes our products look deficient in market to publishers
6 relative to that, which the ad servers would provide through
7 its own exchange. That is one example.

8 But otherwise, you know, we are a tiny company
9 compared to Google. So reputationally we are always doing
10 everything we can to grow Index and grow our name because
11 we're ultimately nowhere near a household name
12 comparatively.

13 Q You indicated you're a tiny company compared to Google.

14 How does that impact, if at all, your access to
15 winning open-web display impressions?

16 A Can you repeat the question?

17 Q Yeah. You said that you were a tiny company compared
18 to Google.

19 How does that relative size impact your ability to
20 compete for the same number of ad impressions as AdX?

21 A I'd say the most direct example of that would be we
22 are -- we are tasked not just with representing our
23 publisher's media, but we're also tasked with facilitating
24 an optimization element which relies on data to be
25 performant.

1 So if you think of the sale of the open web, which
2 we have a significant exposure to, we work with most every
3 major publisher on the planet, we have tens of billions,
4 hundreds of billions of opportunities that come into Index.
5 For us, we need to determine which of those impressions is
6 interesting to the buy-side. And so there's an optimization
7 problem of the enormity of the open web, and then the
8 tolerance that the buy-side has to listen to it while we're
9 trying to organize what they want to buy as intelligently as
10 possible. The better of a job we do at that, the more
11 likely we are to clear impressions, and that is a massive
12 data task.

13 There's a similar version of that problem in
14 pricing where we also need to constantly be revising our
15 understanding of the value of a given media opportunity,
16 which we demonstrate through something that we call floor
17 pricing, which is another optimization program, which scale
18 and data is very, very critically important to maximize the
19 output of. If we floor incorrectly, so if we set a price
20 that is simply too high or too low, we will fail to clear
21 media opportunities.

22 Q And approximately how many open-web display
23 transactions does Index see in a given day?

24 A Approximately 250 billion.

25 Q And of those 250 billion that you see daily, can you

1 estimate approximately how many Index ends up winning?

2 A We win approximately half a percentage of that number.
3 So half a percentage of 250 billion daily.

4 Q Meaning 0.5 percent?

5 A That is correct.

6 Q And how does winning 0.5 percent of the auctions you
7 see impact your ability to compete against a company like
8 Google's AdX?

9 A Well, we -- as I mentioned, we're a tiny company, and
10 so effectively we only know what we clear. So we only
11 know -- of the big, big number, the 250 billion, we only
12 know what's interesting to an advertiser, we only know the
13 price of impression to a smaller number, the .5 percent of
14 the time that clear the transaction.

15 So any company that is clearing significantly more
16 transactions than us would simply have a better handle on
17 what is interesting to an advertiser or what the price of
18 any given media opportunity is to feed their own
19 optimization models. So I would characterize AdX as being
20 substantially larger than Index, therefore, would have an
21 information advantage in those two problems.

22 Q Now, you spoke earlier about take rates.

23 Can you tell us again, what is a take rate?

24 A A take rate is a percentage of media, and it's how we
25 recognize our revenue at Index. And so if we were to sell

1 \$1,000 worth of impressions for a publisher, we would have a
2 take rate with that publisher that was commercially
3 negotiated. Suppose that take rate was 15 percent, whatever
4 the percentage might be. We would then be eligible to
5 receive \$150 in revenue relative to that \$1,000 in ad spend.

6 Q So take rate is basically a fee?

7 A It's basically a fee.

8 Q And has Index ever attempted to compete against
9 Google's ad exchange by lowering Index's take rate or fee?

10 A We have experimented with reducing our fees generally.
11 I wouldn't say it was directly in response to AdX, but more
12 specifically in reference to us being a more competitive
13 platform and market.

14 Q Why do you say not specifically vis-a-vis AdX?

15 A We don't really know in any given opportunity who we're
16 competing with. You know, that's a mystery bucket. So when
17 we participate in a transaction, we place a bid. We only
18 know if we win or lose, generally speaking. And so as a
19 result, when conducting an experiment to lower our fees, we
20 wouldn't know who the opposing side was in a given auction.

21 Q And what would you expect to see if you lower your fees
22 in connection with an open-web display auction?

23 A We would expect to clear or win more opportunities.

24 Q And what did Index, in fact, see when it experimented
25 with lowering its fees?

1 A We have ran a series of these experiments over the
2 years, so we've done this multiple times, and I will say at
3 Index, we experiment with everything all the time, so these
4 experiments are, by no means, exhaustively conducted or
5 anything. But we have been surprised that the reduction in
6 our fee has a nominal, at best, effect on win rate.

7 Q And has Index ever experimented to lowering its fee to
8 zero?

9 A We absolutely have lowered our fee to zero.

10 Q And what was your experience when you lowered your fee
11 to zero?

12 A As I said, the expectation was nowhere near the
13 reality. Nominal, at best, improvements in win rate.
14 Whereas intuitively you would assume -- if we cost nothing,
15 intuitively if you assume everybody is plugged into the same
16 demand sources, we should win everything, but that's simply
17 not what we have seen.

18 Q Now, earlier you -- how, if at all, has Index's take
19 rate gone down over time?

20 A As a point of pride at our yearly company event, one
21 stat that we flash is our yearly company take rate, and it's
22 a triangle chart, because every single year, for the most
23 part, there may have been one or two flat years, our take
24 rate since we launched the exchange has dropped.

25 Q Why do you consider that a point of pride that your

1 fees are going down?

2 A We think our ultimate responsibility as a company in
3 market to our publisher customers is to drive the market to
4 something that we call total market efficiency, which is
5 effectively as we scale Index, we should be returning value
6 back to the publisher in the form of efficiency. We should
7 find new ways to make our business model more efficient, the
8 platform more efficient so that we can reduce the commercial
9 cost and ultimately get more ad spend, more wallet from the
10 marketer to our publisher customers.

11 And so this super macro KPI that we share at our
12 company events might be reverse intuitive to some companies
13 that are looking to grow their margins or that sort of
14 thing, but to our company, at least, and what drives Index,
15 it's a point of pride.

16 Q And why is Index interested in driving toward what you
17 characterized as total market efficiency?

18 A The programmatic market is not that young anymore. You
19 know, as I mentioned, we created the exchange in June of
20 2011. So even in the time that we have been in this
21 marketplace, we've been in well over a decade, it started
22 before we entered it as well. And so any market should
23 mature. When I think of the programmatic marketplace and I
24 think of billions and billions of dollars of marketer ad
25 spend, I think -- and I look at our customers and I think

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1 what they expect of us is constant improvement and
2 optimization so that more of the marketer's wallet gets into
3 their pockets so that it's funding content, and our business
4 model is getting out of the way.

5 And so long-term, you know, to me the guiding
6 light for the exchange is, first and foremost, we have to
7 get to something more similar to a Visa, single digit low
8 take rates, like a credit card transaction, and then
9 eventually, you know, if we're going to actually consider
10 ourselves to be ad exchanges and follow financial parallels,
11 we have to become as efficient as something like NYSE or
12 NASDAQ, where today the consumer doesn't necessarily think
13 if they buy a share of Apple, how much went to NYSE or
14 NASDAQ. Those platforms are so incredibly efficient, but
15 the fee is so nominal, it's not even thought of. And I
16 think that's the guiding light for our marketplace, and
17 that's what we're trying to drive toward at Index.

18 Q I want to turn now to the subject of scale and what it
19 costs to run an ad exchange like Index.

20 Can you describe at a high level, what are the key
21 operating costs that Index expends to run its ad exchange?

22 A Our two primary costs as a business would be, first and
23 foremost, payroll, our employees; and our second cost -- or
24 our second biggest cost would be our infrastructure, what
25 processes the transactions behind the exchange.

1 THE COURT: I'm sorry. What was the second one?

2 THE WITNESS: Infrastructure.

3 BY MS. WOOD:

4 Q Can you describe a little bit more about what
5 constitutes that infrastructure and what those costs are?

6 A Yes. We -- so one constraint that we have being a
7 global platform is we have to be very fast regardless of
8 where a media opportunity is in the world. And so we
9 attempt to do that by having data centers all over the
10 world. So we have eight global data centers, four in the
11 U.S., both on each coast, two in Europe, and two in APAC.
12 Those data centers house our servers. So we have
13 approximately 6,000 servers all over the world in our data
14 centers that are responsible for processing all of the
15 auction requests that we get from our publishers very, very
16 quickly.

17 So the cost of that infrastructure is the space in
18 the data centers, the capital expenditure of purchasing the
19 servers -- we purchase our own servers at Index --
20 electricity to power those servers, as well as the Internet
21 bandwidth to transact across the Internet.

22 Q And can you tell us, does Index incur operating costs
23 even when it fails to win an ad impression?

24 A Yes. So the -- at Index, we pay to see or to
25 participate in a given media opportunity for a publisher.

1 So that 250 billion statistic that I cited earlier, each one
2 of those auctions we pay to process, so each one of those
3 auctions has to go to the closest data center wherever the
4 originating consumer is. So where we are today, if we open
5 the New York Times at this moment, a request would go to our
6 data center in Virginia -- which it happens to be in
7 Virginia -- and that data center would process that request.
8 If the ad that ultimately delivered on the New York Times we
9 did not render, we would still have paid to process it.

10 Q And how does Index generate revenue to cover the
11 operating costs you just described?

12 A So the half a percentage -- the approximate half a
13 percentage at the time that we win one of those
14 opportunities, we are able to realize revenue by way of the
15 take rate model, the fee model that we talked about earlier.

16 Q So you pay on every transaction, but you only earn
17 income when you win the transaction; is that right?

18 A That is correct.

19 Q Now, based on your experience over the last ten years,
20 how would you characterize the level of difficulty, if any,
21 for a new business to attempt to enter the ad exchange
22 market?

23 A When I -- when we first built the exchange in and
24 around 2011, I'd said internally to the company that it was
25 near impossible to do what we did then, and that was over a

1 decade ago. I can't imagine anybody starting a new exchange
2 today.

3 Q Why do you say that?

4 A There are significant network effects and costs, very
5 real costs to being an ad exchange. The network effects
6 would be you have to attract both demand and supply
7 simultaneously to be interesting to either. So if you were
8 to found a new exchange today, buyers want to buy Disney or
9 the New York Times or very, very esteemed publishers.
10 Publishers expect you to have demand. It's really hard to
11 solve that chicken and an egg. For us, it took years and
12 years and years and years to start to establish the
13 credibility that required us to eventually land big names,
14 which then attracted a bigger demand.

15 DSPs also have to make an investment in every
16 exchange by way of the technical integration to integrate
17 with an exchange, which is also a very onerous process,
18 they're very selective. Some DSPs we've literally waited
19 five years to integrate into Index. So that's just a
20 significant amount of human time. And then, additionally,
21 we're in the business of scale, so there's a significant
22 infrastructure required to assume the scale of the exchange,
23 which is a significant investment, not just in compute in
24 the servers, but also software and the engineering required
25 to facilitate the platform. Those would be a couple of

1 examples.

2 Q You just said that you're in the business of scale.

3 What does "scale" mean in this context?

4 A I like to believe that almost everything that happens
5 on the open web, an opportunity comes into Index. And so
6 that's the greatest scale that we're aware of.

7 Index bursts at over 1 million opportunities per
8 second. When we think of scale today, typically we think of
9 maybe Visa probably processes a lot of transactions. Visa
10 processes approximately 30,000 transactions a second. We
11 burst to a million. So I think we are constantly feeling
12 and absorbing the scale of the Internet, and the Internet is
13 huge.

14 Q How, if at all, is access to data important to
15 achieving scale?

16 A When you say "data," what do you specifically mean?

17 Q Well, is any kind of data important to achieving scale
18 in the market for exchange?

19 A The data that we look at and the data that drives the
20 optimization that I mentioned earlier is transactional data.
21 So it's the integrations with all of our publishers, the
22 access to the 250 billion opportunities that we've cited,
23 and the half a percentage of the time that we clear to know
24 what opportunities are interesting to a given demand-side
25 platform or their advertisers, as well as the pricing

1 information that comes from those transactions. That's
2 typically the data that we look at at Index that drives a
3 lot of the value that we provide.

4 Q And how does an increase in the amount of that kind of
5 transactional data allow a company to more effectively
6 compete?

7 A It's an enduring optimization problem. So if we clear
8 more impressions, we do a better job of optimizing something
9 that we call QPS, or queries per second, which is a
10 constraint DSPs place on us or exchanges like us, because
11 while we think it's great that we have access to the open
12 Internet, they have costs, too, and so they don't want to
13 have access to anything more than we need to, and it's our
14 job to make sure that we make the most of the capacity that
15 they have, so they represent that through something called
16 QPS.

17 Every time we clear a transaction, that trains
18 machine learning models, or ML models at Index, that helps
19 us do a better and better and better job of making the most
20 of whatever allocation the DSP gave to us.

21 If we do a really good job, the DSP will give us
22 an increased allocation of QPS. Gaining an increased
23 allocation of QPS will typically come with a revenue
24 benefit, because they're effectively saying we're going to
25 give you a bigger pipe into our demand, and so typically

1 we've seen if we can grow that pipe, we also can grow the
2 ads that come to the exchange, which means we'll grow the
3 volume of impressions that we win.

4 Q You mentioned ML models.

5 What are you referring to?

6 A ML refers to machine learning, and it's effectively
7 what our data science team at Index is responsible for where
8 they are constantly optimizing a problem that we call buyer
9 traffic optimization at Index. And that's effectively what
10 I articulated where we have access to a very, very big
11 number of opportunities at Index, but DSPs give us a very,
12 very small pipe, which we call a QPS limit, and we're trying
13 to figure out what they buy to make the most of that pipe so
14 that over time the DSP will grow that pipe to Index. And
15 that's looking at transactional logs, data science
16 techniques to ultimately train models to do a better job of
17 making that decision.

18 Q I want to turn now to some of Google's conduct in this
19 case and how it might have affected Index as an exchange
20 competitor.

21 Are you familiar with the term "waterfall" as it's
22 used in connection with open-web display ads?

23 A Yes.

24 MS. WOOD: And if we can show Demonstrative G, as
25 in girl. Again, this has been previewed to defense counsel,

1 and they had no objection.

2 BY MS. WOOD:

3 Q Plaintiffs' Demonstrative G here, can you describe with
4 this demonstrative how the waterfall functions in terms of
5 open-web display auctions?

6 A So the waterfall was typically used before the modern
7 era that we operate in today, and in the waterfall --

8 Q Let me just -- sorry to interrupt again.

9 When you say the modern era today, are you
10 referring to the advent of header bidding?

11 A That's correct, yes.

12 Q Okay. So prior to header bidding --

13 A Right.

14 Q -- was the waterfall a prominent methodology?

15 A That is correct.

16 Q Okay. Please continue.

17 What was the waterfall, and how did it work?

18 A So the waterfall was, much like the name implies,
19 basically a sequence list of vendors that would be selected
20 to be given an impression opportunity from a publisher. And
21 so you can effectively look at it as one exchange might be
22 in the first chair, the first position, and they would be
23 given the opportunity to purchase or clear a transaction on
24 behalf of the publisher across, you know, the enormity of
25 their opportunities. And if they were able to clear it, the

1 transaction would end there. If they were not able to clear
2 it, it would then go to the second chair, the second
3 position, or the next platform in a waterfall, and they
4 would be given the same opportunity. If they could clear
5 it, it would stop there, otherwise it would go successfully
6 to the next one, however long the waterfall was.

7 So you can kind of look at it as, as exchanges or
8 SSPs, the market was trying to fight for a position in that
9 era where everybody wanted to be that first chair or that
10 first position to have access to the majority of
11 opportunities and to also effectively end the transaction
12 right there.

13 Q Did you have an understanding as to how exchanges could
14 compete to get in that first chair position?

15 A The -- I would say we were a frustrated exchange in the
16 waterfall era. It's one of the reasons that we put so much
17 effort into moving the market to header bidding. But we --
18 I'd say if this visual is anything polite, I think we were
19 probably more in that Position 5. We were the exchange
20 fighting to be noticed. Where, to some degree, this was a
21 function of reputation and credibility where the first
22 position or the early positions might be the position that
23 the publisher knew very well or had been working with for a
24 very long time, or the first position or the first positions
25 would be a platform that was viewed as having a substantial

1 amount of demand. So they represented an outsized
2 percentage of the publisher's business, therefore, they were
3 put in that early position.

4 So for us as a competitor, you know, we would
5 often push for tests. We would say, you know, we are in --
6 we are in your camp as a publisher, we're here to help you,
7 give us a shot, move us up higher in the waterfall. And I
8 would say that we had varying degrees of success in that
9 pitch, but that was sort of the state of play during the
10 waterfall era of the competitive market.

11 THE COURT: So just so I'm clear, if the price
12 floor were not \$1.06 but were \$1.25, one, two, three, four,
13 the first three would not get the bid?

14 THE WITNESS: That's correct.

15 THE COURT: Yeah.

16 THE WITNESS: It would then proceed to the fourth.

17 THE COURT: So the trick was who sets the floor.

18 THE WITNESS: Absolutely.

19 BY MS. WOOD:

20 Q And, to your understanding, who was responsible for
21 setting the floor price?

22 A Like, for the most part, I would say the publisher was
23 involved in setting the floor price. I don't know if there
24 was also a feature that they used. I couldn't say that.

25 Q Are you familiar with Google's Dynamic Allocation

1 feature or Enhanced Dynamic Allocation?

2 A I'm generally familiar with it, but I'm not a direct
3 user of it.

4 Q Okay. What advantages or disadvantages did the
5 waterfall system have for competition among exchanges for
6 open-web display transactions?

7 A I think the advantage was this is how programmatic
8 started, and so, you know, it allowed the market to kick
9 off. But I think it was rife with a lot of disadvantages.
10 You know, if you even look at the visual here, there was no
11 way to have every single bid compete in every given auction,
12 and so it had, you know, the unintended consequence of
13 potentially selling an impression maybe at floor, but at a
14 much lower price than it could have commanded had all bids
15 been made available to it.

16 I would also say as a competitor in this era, we
17 were very frustrated by our competitors who we thought were
18 becoming lazier and lazier as they secured positions at the
19 top of the waterfall, because there was no way for us to
20 push prices down or really push for the philosophy that we
21 have at Index toward total market efficiency, because if
22 they had that high chair position and we were buried at the
23 bottom of the waterfall, it wouldn't matter if we dropped
24 our price, we would never even have the opportunity at the
25 event.

1 So I would say on the one hand, a significant
2 downside to the waterfall was not every bid participated in
3 every opportunity, which meant that impressions could clear
4 lower than they should have. And then as a competitive
5 model, it wasn't particularly competitive at all because the
6 first positions got very comfortable very quickly.

7 Q Now, how, if at all, did the market react to this
8 waterfall setup? I know you mentioned header bidding.

9 Can you describe to us how header bidding arose in
10 the marketplace?

11 A Yeah. As I mentioned, we were a frustrated competitor
12 in the waterfall chapter of programmatic, and so I think,
13 like anything, you know, innovation finds a way. And we
14 fundamentally looked at the waterfall as wrong because it
15 did not put every vendor up against each other
16 simultaneously. It had this privileged position, and we
17 called it positional advantages. And so we sought an
18 opportunity to eliminate positional advantage and move to
19 something that would allow us and every one of the
20 competitive exchanges to have a fair shot. That's what
21 header bidding represented.

22 As to how we got to it, we got to header bidding
23 because we had noticed quite literally companies placing
24 code in the header of publisher websites that were
25 attempting to activate line items in the ad server which we

1 thought was very interesting.

2 And so over a series of, I don't know, maybe even
3 years -- it's a little bit foggy because it's been a
4 while -- we replicated that capability so that instead of us
5 representing our own demand, we could actually bring the
6 exchange to the header and use it as an opportunity to fix
7 this positional advantage.

8 Q And was the header bidding auction run inside of DFP
9 and the Google products or outside of it?

10 A The header -- so header bidding is the premise that
11 code can run in the header of a publisher's website. The
12 header is what initiates first upon loading a website. And
13 so that code effectively just runs on site on the
14 publisher's page, it doesn't run in the ad server or DFP.
15 It runs quite literally in the header.

16 And that means that as the website is loading, a
17 request would go to an exchange like Index or any other
18 exchange, we would very, very quickly respond back to the
19 page, and the publisher would now have bids, our bids, other
20 competitor's bids. Those bids they would then push into DFP
21 or push into the ad server and activate what we call line
22 items.

23 As much as I articulated before, the ad server
24 organizes this order book, the order book can house all of
25 the direct opportunities the publishers have. The order

1 book was also used to organize the line items that were
2 being pushed in from header bidding.

3 And so once the action took place on the
4 publisher's website, the outcome of the auction would
5 typically be maybe Index had the best price, and the
6 publisher would push that price into DFP.

7 Q And the header bidding auction, were the auction
8 participants in header bidding all able to compete in real
9 time and not in this waterfall sequence?

10 A That's exactly how header bidding works.

11 Q Okay. And what impact, if any, did header bidding have
12 on publishers, based on your experience?

13 A Publishers --

14 MR. ISAACSON: Objection, Your Honor. Impact on
15 publishers is the question.

16 THE COURT: Yeah. He's not a publisher. I'm
17 going to sustain that objection.

18 MS. WOOD: Can I attempt to lay a foundation, Your
19 Honor?

20 THE COURT: Try.

21 BY MS. WOOD:

22 Q Who do you consider your primary customers at Index?

23 A Publishers.

24 Q And how often do you converse with publishers about
25 developments in this industry?

1 THE COURT: Have a seat while she's speaking,
2 please.

3 THE WITNESS: Daily.

4 BY MS. WOOD:

5 Q And do you make it your business to understand what's
6 in publisher's best interests or not in publisher's best
7 interests?

8 A To the best of my ability.

9 MS. WOOD: Your Honor, I believe he can indicate
10 what he understands to be in publisher's best interests.

11 THE COURT: Well, he's in the business of serving
12 publishers, if they don't like what's happening, it's going
13 to affect his business. That's enough foundation.

14 Overruled. Let's go.

15 BY MS. WOOD:

16 Q What impact did header bidding have on publishers?

17 A Publishers made more money.

18 Q And why did publishers make more money?

19 A We view it as fixing positional advantage in bringing
20 all competition to the auction so that all competitors were
21 lined up alongside each other and effectively, you know,
22 fighting for their yield simultaneously.

23 Q And what impact, if any, did header bidding have on
24 competition in the ad exchange market overall?

25 A I think header bidding made the market hypercompetitive

1 because that lazy waterfall element that I articulated
2 before became very uncomfortable very quickly. You would
3 not be able to sit back if you were in a high position in
4 the waterfall and maybe swell your business model because
5 again now we're operating in an environment where you're
6 putting yourself to test instantaneously on every single
7 opportunity relative to the entire competitive market. So I
8 think we went from an era that was perhaps less competitive
9 to an era that was hypercompetitive.

10 Q Now, there's been some suggestion in this case that
11 header bidding might be riskier from a cybersecurity
12 perspective.

13 What is your reaction to that suggestion?

14 A I completely disagree with that suggestion.

15 Q Why do you disagree that header bidding is not any
16 riskier from a cybersecurity perspective?

17 A There's fundamentally no difference in ad display
18 between the waterfall and header bidding. In both
19 instances, advertisements run on the publisher's website.
20 In the waterfall, we had the opportunity to have unevaded
21 access to the publisher's slot where we would place an ad.
22 Through header bidding, we did the exact same thing. So, to
23 characterize header bidding as being a cybersecurity risk
24 would be then therefore characterizing the prior era of the
25 market as being a cybersecurity risk as well.

1 Q And what about risks for other similar things like
2 malware or ad fraud or things like that, was header bidding
3 more risky from that perspective based on your experience?

4 A I completely disagree with header bidding being more
5 risky from that perspective. It's the same equivalence.
6 Whether we were rendering an ad in the waterfall or whether
7 we were rendering an ad through header bidding, we were
8 rendering an ad on the publisher's website. They're
9 fundamentally equivalent once the ad server renders the ad.

10 Q Did you have occasion to observe Google's reaction to
11 header bidding in the market?

12 A My observation of Google's reaction would have been
13 through conversations I had with publishers.

14 Q Putting aside those conversations, what, if anything,
15 did Google do based on your knowledge to react to header
16 bidding?

17 A The most direct response to header bidding would have
18 been launching EBDA, which became Open Bidding.

19 THE COURT: I'm sorry, launching what?

20 THE WITNESS: It's an acronym from Google. EBDA.

21 BY MS. WOOD:

22 Q And is that Exchange Bidding?

23 A Yes.

24 MR. ISAACSON: Can I interrupt just to be helpful?

25 He then said it was Open Bidding. I thought you would want

1 to know that.

2 MS. WOOD: I was getting ready to do that. But
3 thanks, Bill. I appreciate the assist. I think I got it.

4 BY MS. WOOD:

5 Q And Exchange Bidding ultimately was recharacterized as
6 Open Bidding?

7 A Yes.

8 Q Okay. And what impact, if any, did -- did Index
9 Exchange participate in Open Bidding?

10 A We did.

11 Q And what impact, if any, did Open Bidding have on
12 Index's ability to compete against AdX in that same Open
13 Bidding auction?

14 A I missed the first part. Could you please repeat?

15 Q Actually, let me take a step back.

16 What was the Open Bidding product that Google
17 launched?

18 A Open Bidding was a server-to-server style of
19 integration. So unlike header bidding, which happens in the
20 header of the web page, Open Bidding happens between
21 servers, so between the AdX or DFP platform and exchange
22 like ours. So it doesn't happen on the client side browser.
23 That's just one difference.

24 Otherwise what the Open Bidding was was a version
25 of header bidding that the ad server itself was facilitating

1 instead of the publisher's header was facilitating, where
2 requests were made to Index, or exchanges like Index, we
3 could respond back, and a decision was ultimately made.

4 Q So how did the Open Bidding auction differ from the
5 prior waterfall auction?

6 A I would say it was more similar to header bidding in
7 that it represented a potential unified auction where
8 instead of there being the successive chairs, all requests,
9 as far as we know -- we're assuming this, but as far as we
10 know, all requests were made simultaneously.

11 Q So different exchanges were bidding at the same time
12 for the same auction?

13 A Yes.

14 Q Okay. And did Google charge a fee to Index Exchange to
15 participate in Open Bidding?

16 A Yes. I -- there was a fee. I don't know specifically
17 whether it was a fee that was charged to us or the
18 publishers only because it was a percentage of media fee
19 taken out of our bid. So it's arguable as to whether it was
20 our fee or the publisher's fee to bear, but a fee was taken
21 for Open Bidding.

22 Q So an incremental fee over and above the fee for the ad
23 exchange is taken in connection with Open Bidding
24 transactions?

25 A Yes.

1 Q And do you know whether Google charged its own ad
2 exchange fee in connection with Open Bidding transactions?

3 A I have no knowledge of how that would work.

4 Q Okay. And do you know what was the incremental fee
5 associated with Open Bidding transactions over and above the
6 take rate of the ad exchange itself?

7 A As far as I recall, it was something in the
8 neighborhood of a 5 percent fee, but I think the fee also
9 varied depending on the transaction type, I just can't
10 recall the specifics.

11 Q Okay. And are you aware of any advantages that Google
12 had by virtue of running the Open Bidding auction?

13 A Well, I would say that fee feels like it would have
14 been an advantage, but, again, we had no exposure to how the
15 auction was run. But if a 5 percent fee was assigned to
16 Index bids, that would mean that our bids, if we placed the
17 bid at \$1, that means our bids would compete at 95 cents.
18 So if that same fee was not charged to AdX, it would have an
19 advantage.

20 And in this marketplace, a significant volume of
21 transactions cleared a very close price band, and so that
22 could be a significant advantage. But I don't know
23 specifically whether or not the same fee was charged to AdX.

24 Q And what about -- do you believe there were any scale
25 or data impact for Google in running the Open Bidding

1 auction?

2 A I have no way to know what Google was doing with the
3 data, but the data is very valuable to know who's winning
4 which impressions.

5 MS. WOOD: I want to show one more demonstrative,
6 Plaintiffs' Demonstrative H, which, again, I believe there's
7 been no objection from defense counsel.

8 BY MS. WOOD:

9 Q Are you familiar with the term "last look" as it
10 pertains to header bidding?

11 A Yes.

12 Q And can you describe to the Court what, fundamentally,
13 is last look?

14 A My understanding of last look comes from the Google
15 blog disabling it in conversations with publishers. I don't
16 have any intimate knowledge of the design of it beyond that,
17 but my understanding of last look is --

18 MR. ISAACSON: I would object.

19 THE COURT: Sustained.

20 MR. ISAACSON: His understanding comes from
21 hearsay.

22 THE COURT: Sustained.

23 MS. WOOD: Okay.

24 BY MS. WOOD:

25 Q Now -- I'll move on.

1 In connection with last look, does Index get to
2 know the final result of the header bidding auction and have
3 an opportunity to increase its bid after the header bidding
4 auction runs?

5 A No.

6 THE COURT: So all these auctions are basically a
7 one-time auction; is that right?

8 THE WITNESS: Yes. We call it real time.

9 THE COURT: All right. Unlike I go to Sotheby's
10 and keep raising my hand and the price keeps going up. This
11 you just throw the number in and you get it or you don't get
12 it.

13 THE WITNESS: Last bid.

14 THE COURT: Okay.

15 BY MS. WOOD:

16 Q And if there were an entity that were allowed to see
17 the bids of other participants after the bidding ended and
18 then changed their bid, how would that impact you as an
19 exchange competitor?

20 MR. ISAACSON: I object to the hypothetical.

21 THE COURT: No. I'm permitting that. Overruled.

22 THE WITNESS: That would be an incredibly
23 privileged opportunity because you would have the
24 opportunity in real time to potentially add something to
25 your bid to win. And, as I mentioned, our understanding of

1 this market, a significant volume of bids -- I should say a
2 significant volume of impressions end up clearing or winning
3 or losing in a very, very tight price band. Think a few
4 pennies.

5 So if we could know what our competitors' bids
6 were before we placed ours, and we spotted, you know, our --
7 we computed that we were going to place a \$1 bid, and our
8 competitor placed a \$1.01 bid, we could add a penny to that
9 and always win, and it would be trivial to do so because we
10 have a take rate. And so even if we collapse our take rate
11 by two points to clear the transaction, the revenue upside
12 would be substantial. So, in short, it would be an
13 incredible opportunity.

14 Q Now, earlier you talked about Index's efforts over time
15 to bring its own fees down.

16 Can you describe to the Court, based on your
17 experience in this industry, how lower take rates charged by
18 ad exchanges impact their publisher customers?

19 A Publishers are in the business of creating content, and
20 they have substantial costs of their own. You know,
21 journalists, videographers, the websites themselves. And
22 so, as I mentioned, there's a value exchange on the open
23 web. Ads pay the bills. For the most part, publishers,
24 especially at scale, have not been able to establish enough
25 subscriber revenue to pay the bills, so the ads do a lot of

1 the heavy lifting.

2 Everything that we do to compress Index gets more
3 of the marketer's wallet, more of the marketer's ad spend
4 into the publisher's wallet to pay those bills. And so for
5 us, we want to continue to compress our costs so that we are
6 getting every single additional dollar from the bid to the
7 publisher as we possibly can to fund content. That's what
8 our business purpose is.

9 MS. WOOD: I'll pass the witness, Your Honor.

10 THE COURT: Perfect timing. It's lunchtime. All
11 right.

12 We need to make sure you get a pass so you can get
13 back in here quickly. We want to start promptly at 2:00.
14 The courtroom will not open until quarter of 2, but we need
15 to have you all ready to go. All right.

16 MS. WOOD: We will be here. Thank you, Your
17 Honor.

18 THE COURT: We'll recess court.

19 (Court recessed for lunch at 1:00 p.m.)

20 -----

21 I certify that the foregoing is a true and accurate
22 transcription of my stenographic notes.

23

24

25

Stephanie Austin

Stephanie M. Austin, RPR, CRR